

Effects of a Facilitative Program on Low Co-parenting Couples during the Parenting Years-A Comparison of the Effects of Fathers and Mothers

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Abstract

A previous study on low co-parenting couples by our group found that father-mother interaction, as well as changes in and characteristics of the program's efforts, needed clarification before the program can be utilized. To clarify this issue, we reanalyzed our data, which included 278 participants (128 mothers, 32.3 ± 4.0 years old; 150 fathers, 33.8 ± 3.4 years old) in their childrearing years who would stand to benefit from the intervention. Thoughts on parenting life before the program efforts were "I should be more aware" for mothers and "I am fine with the way things are now" for fathers, with the fathers being more likely to continue and be aware of the program efforts. Among the four subscales identified, the subscale "shared responsibility and difficulties", which was considered a negative factor, yielded the lowest scores for fathers. Moreover, fathers expressed that they "have learned to respect the other person", whereas mothers were more likely to state that "If he is not cooperative, he will not naturally try to help me". Furthermore, no changes in "mutual emotional support", "mutual concrete support", and "agreement and negotiation on parenting" were observed, indicating a discrepancy between fathers and mothers. Fathers' cooperation did not match mothers' level of satisfaction, which can be attributed to a lack of communication. Changes occurring after the implementation of a program largely depend on how much interaction takes place, such as agreement on how to work on the program, mutual understanding of each other's thoughts and feelings, and mutual appreciation and appreciation for each other's efforts. Hence, understanding the significance of "couple parenting" when creating the program, having each couple reflect on their current situation and make concrete efforts with the intention of working on it, and incorporating a considerable amount of "couple communication", which was considered a factor that improves the effectiveness of co-parenting, were considered effective. The program was also effective in incorporating substantial efforts in "couple communication", which was considered a factor in improving the effectiveness of co-parenting.

Keywords: Co-Parenting Program; Father Mother Effectiveness

Introduction

Co-parenting is defined as the cooperation between mothers and fathers based on their marital relationship to support each other in childrearing and provide a stable nurturing environment for their children (i.e. not leaving childrearing solely to the mother but also involving the father and working together as a couple). One study characterized co-parenting as the performance of both parental roles

together, and more broadly, as an act shared by multiple caregivers who should be responsible for the care and nurturing of their child [1]. Promoting co-parenting can help co-parenting couples build an amicable relationship, which can have a considerable positive impact on child development [2].

Since around 1995, the concept of co-parenting has been introduced to two-parent families overseas, with research revealing that mothers can be a direct or indirect cause of fathers' disengagement in childrearing (i.e. mothers with a strong view on gender roles are less likely to be involved in childrearing) [3]. Studies in Japan have also shown that wives perceive a decrease in support from the husband decrease as the child grows older even among couples that start childrearing together after the birth of their first child [4-7]. Moreover, evidence suggests a decline in intimacy among married couples [8]. In light of these circumstances, an intervention model that would help couples work together toward childrearing is certainly warranted in Japan. However, research on cooperation among couples in childrearing is still in its infancy, with future promising studies certainly being expected.

In Japan, a considerable amount of research on couple parenting among pregnant and parenting couples has been conducted [6,9-11], with their findings suggesting the need for investigations into programs that enhance co-parenting for parents raising children, which yet to be fully explored both in Japan and overseas.

A previous study by the author, which was funded by the grant-in-aid for scientific research from the ministry of education, culture, sports, science and technology, confirmed that increased couple parenting enhances childrearing happiness while reducing childrearing stress, increasing parenting time, and promoting childrearing behaviors [12]. Couple parenting has also been significantly associated with discussions regarding parenting time, number of children desired, age of the children, and parenting responsibilities before childbirth. Furthermore, discussions on the characteristics of the children according to age and parenting responsibilities starting from the pregnancy period and responding to the shortened version of the co-parenting perceptions scale were linked to perceived cooperation in childrearing. Overall, these findings suggest an expected increase in positive parenting behavior [13].

Based on the results of these previous studies, an intervention study to develop a program that promotes parenting among couples during the childrearing period had been launched in 2023.

The study found that the low co-parenting group displayed a significant increase in the level of awareness regarding the program efforts, the implementation of the program, and the changes in post-impression scale scores after the program. Despite the significant decrease in the high co-parenting group, appropriate adjustments were supposedly made due to the high evaluation. In addition, 7 of the 20 items under "father's participation in education" as perceived by the husbands were significantly associated with couple parenting, suggesting that the father's view of his participation in education had a positive effect on co-parenting. Furthermore, the number of household chores performed by husbands was found to be significantly higher in the high or medium Marital Parenting Perception group than in the low group [14].

Based on our previous findings showing increased co-parenting scores with a higher perception of the "effect of father's participation in education", we decided to divide the couples into two groups: those who did and did not continue the intervention survey for 1 month. Our results showed that the couples' fathers' education was more effective than their fathers' education. We also found that the participants who continued to participate in the program for 1 month remembered and were aware of the contents of the initiatives [15]. However, given that the analysis focused on the effects of continuation, focusing on the effects of similarities and differences between fathers and mothers proved challenging. The current study therefore reanalyzed the data while focusing on clarifying the interaction between fathers and mothers and the changes in and characteristics of the fathers' and mothers' efforts in the co-parenting program. We believe that our study provides useful suggestions for program approaches and intervention methods, which can be used to support and promote couple parenting.

Despite the considerable impact of co-parenting on fathers' participation in their children's education and on their children's social skills were high [15], commonalities in parental growth between fathers and mothers [16] and characteristic changes in each of them have been identified [16]. Hence, we sought to identify differences and commonalities between fathers and mothers and examine whether any viewpoints that promote the program in the future can be devised.

Purpose of the Study

The current study aimed to clarify the interaction between fathers and mothers and the characteristics of the couple parenting program in order to support and promote couple parenting, as well as determine effective program approaches and intervention methods.

Research Methods

Programs promoting couple parenting

The following items from the co-parenting perceptions scale were used: "Mutual emotional support" (4 items), "mutual concrete support" (4 items), "agreement and negotiation on parenting" (3 items), "shared responsibility" (3 items), and "mutual support for parenting" (3 items). Based on the 15 items and 4 factors [17], a shortened version of the scale was created [13] and programs 1 through 4 were established to examine the couples based on the four perspectives. The specific aims and contents are summarized in table 1.

Table 1: Aims and content of the Married Co-Parenting Support Program

Four perspectives	Aims	Content
I Emotional support for each other	1.Worrying about	Greet people with a smile and find out how they are doing on a day-to-day basis
	2.Knowing what the other person wants.	Say and listen to what you really think in order to get rid of your worries, frustrations and concerns
	3.Compassion	Understand and know the other person's feelings.
	4.Listening	Treat them warmly and take care of them with compassion.
II Concrete support for each other	1. Helping with housework and child-rearing naturally	Think from the other person's point of view, Help them with their hardships and efforts Take the initiative and try things, Don't forget to say thank you
	2.Help and be considerate so as not to get frustrated.	Call out to them, Ask if they are okay
	3.Always think of better ways to do things.	Ask if they are accumulating stress or fatigue Reflect on their usual behavior and speech
	4.Cooperate with everything without complaining	Communicate your willingness to help and do things together as much as possible
III Agreement and negotiation on child-rearing	1.Watch out for each other and discuss things as they come up.	Make time for each other, Make an effort
	2.Put your feelings and opinions into words and communicate them to the other person	If you don't tell them, they won't know You can talk about anything, A relationship that won't break even if you fight
	3.Listen to the other person's opinions and report back even when you are in charge	Communicate your intentions to each other, Share information
IV Difficulty in sharing responsibilities	1.Don't leave things that hinder the cooperation of the couple as they are	Differences in values are a way of thinking and something to cherish for each other, There is no need to criticize or make them the same as you, so try to respect them
	2.Talk about and consult about what you are feeling	If you notice that they are having new difficulties, talk about it Even if you have a fight, it's okay

* Have a discussion between the couple about "parental involvement in education" before the program starts

Survey method

Questionnaire survey via Internet research (academic research organization Freeasy) along with the presentation and implementation of the program was requested.

Survey subjects

The subjects of this survey included fathers (husbands) and mothers (wives) in their childrearing years with children under 5 years of age who had scores for at least one of the four subscales and whose preliminary survey scores were within the first quartile (25th percentile) value or lower of the Co-parenting Perceptions Scale.

Survey outline

A pre-survey was conducted to select the study subjects, who were between 25 and 38 years of age and whose survey area was nationwide, to simultaneously survey their perception on the importance of fathers' participation in education using a shortened version of the co-parenting perceptions scale.

Two weeks after collecting the pre-survey data, the first main survey and an image describing the contents and implementation points of the program for co-parenting were uploaded. The participants were encouraged to follow the program for 1 week. Table 2 shows the contents of the survey, the number of surveys, and the number of surveys collected (Table 2).

Table 2: Survey period and content				
Survey	Sur	Survey period	Survey content	Distribution Collection
Preliminary survey	July 1, 2024 – July 2, 2024		Age and number of children, whether wife is pregnant Shortened version of the Marital Parenting Perception Scale Importance of the educational effectiveness of fathers' participation	Mothers 500 Fathers 500 500
First time	July 26, 2024 – August 2, 2024		Bonding (feelings towards the child) Edinburgh Postnatal Depression Couple discussion • Effect of fathers' educational participation • Couple communication • Co-parenting review • Explanation and images of couple parenting initiatives	Mothers 201 Fathers 191 155 177
Second time	August 9, 2024 – August 22, 2024		Abbreviated Version of the Co-parenting Perceptions scale Evaluation of program initiatives Actual situation of fathers' educational participation	Mothers 155 Fathers 177 140 163
3rd time	September 18, 2024 – October 1, 2024		Co-parenting initiatives after that Abbreviated Version of the Co-parenting Perceptions scale Importance of the educational and participative effects of fathers Bonding (feelings towards the child) EPDS	Mothers 140 Fathers 163 128 150

Scales and survey items used in the survey

Abbreviated version of the co-parenting perceptions scale

The co-parenting perceptions scale is a 29-item tool that assesses the couple's perceptions of their cooperation in childrearing. The scale consists of four subscales: "Consideration and appreciation for the other", "Communication between the couple", and "Things that hinder co-parenting" [17]. Subsequently, a survey was conducted using a abbreviated version of the co-parenting perceptions scale consisting of 15 items and 4 factors, with confirmatory factor analysis revealing that the following factor names and items (Cronbach's alpha coefficient): "emotional support for each other" with 4 items (.84), "specific support for each other" with 4 items (.84), "emotional support for each other" with 4 items (.84), "agreement and negotiation of parenting" with 3 items (.73), and "difficulties in sharing responsibilities" with 4 items (.77). The scale was designed as a abbreviated version of the co-parenting perceptions scale [13]. Each item was rated on a 5-point scale from "1" ("does not apply to me") to "5" ("does apply to me"), with higher scores indicated higher couple's perception of parenting in childrearing.

Father's participation in education scale

The results of our preliminary survey showed that "fathers' participation in education" influences children's growth [18]. The husbands were then asked to select the appropriate value representing importance of the 19 items listed as the effects of fathers' participation in education on a 5-point scale from 1 to 5, with 1 indicating "not at all important" and 5 indicating "very important" to the husband. Exploratory factor analysis using the maximum likelihood rotational Promax method was conducted on the valid responses (230 wives and 187 husbands) during the pregnancy period (the respondents or their spouses were pregnant) and childrearing period (with children under 5 years old) to confirm the commonality of items and factors influencing child development. The results for the 15 items were used to create a father's participation in education scale that contained two subscales: "effects on children" with 10 items (Cronbach's alpha coefficient .91) and "effects on children's social skills" with 5 items (Cronbach's alpha coefficient .89). Higher scores indicated higher knowledge and understanding of fathers' ability to make correct decisions about their children's development.

Attachment disorder scale for children

The Bonding Scale by Yoshida [19] examines the effectiveness of maternal and child health care programs. This scale contains 20 questions to assess the burden of childcare and 10 questions to assess feelings toward the child, checking for negative feelings and risk of abuse. The maximum total score for this scale is 30 (0 points for feeling strongly almost always, 1 point for feeling strongly sometimes, 2 points for feeling a little so sometimes, and 3 points for not feeling so at all), with higher scores indicating stronger negative feelings toward the child. The total score was taken for subsequent analysis.

Edinburgh postnatal depression scale

The Edinburgh postnatal depression self-evaluation scale (EPDS) was developed by British psychiatrist [20] and his colleagues to screen for postpartum depression. The Japanese version of the EPDS assesses depression, anxiety, and household and childcare functions based on mood over the past 7 days, with a score of 3, 2, 1, and 0 corresponding to a response of usually, sometimes, seldom, and never, respectively. The items include childcare anxiety (4 questions), depression (5 questions), and sleep disturbance due to depression (1 question). The total score was utilized in subsequent analysis.

Analysis methods

Scale reversal items were reversed, after which scores were analyzed using nonparametric tests with the added mean as the score. During our analyses, the level of significant was set at $P < .05$ and $P < .01$.

Reliability Cronbach's alpha coefficients for the subscales of the co-parenting perceptions scale (three surveys) ranged from .83 to .90 for "mutual emotional support", .84 to .89 for "Mutual specific support", .69 to .83 for "Agreeing and negotiating parenting", and .69 to .76 for "Sharing responsibilities and difficulties" during the pregnancy period, and .83 to .90 for "mutual emotional support" during the parenting period. The reliability of the responses was determined as high and valid: "mutual emotional support" (.86 to .88); "mutual concrete support" (.81); "agreement and negotiation on parenting" (.74 to .76); and "shared responsibility and difficulties" (.68).

Friedman's two-way analysis of variance by ranks was used to determine changes at the three time points with correspondence whereas Wilcoxon's signed rank test was used to determine changes at two time points with correspondence. The Mann-Whitney U test was used for comparisons of two groups without correspondence. The χ^2 test was used to determine the comparative association of proportions, correlation for association, and binomial logistic regression analysis for influencing factors.

The effects of attachment disorder and the EPDS were reexamined by comparing subscale scores for the abbreviated version of the co-parenting perceptions scale in four groups: 0 to "0", "decrease" in scores, "yes" to "no increase or decrease" in scores, and "increase" in scores before and one month after the program was implemented. SPSS ver 25.0 was used.

Results and Discussion

Among the 278 subjects identified, 150 were fathers (33.8 ± 3.4 years old; 2 part-timers or full-time employees, 145 full-time employees, and 3 self-employed) and 128 were mothers (32.3 ± 4.0 years old; 40 part-timers or full-time employees, 83 full-time employees, 2 self-employed, 2 housewives, and 1 student). The mean number of children was 1.6 ± 0.7 (5 years old and younger), with 212, 63, and 3 participants having 1, 2 and, 3 children, respectively.

Thoughts on life with child care based on the couple's discussion

Table 3 shows the items on which fathers and mothers differed in their thoughts on basic lifestyle, responsibilities, and division of roles while living with child care, as well as the effects of fathers' participation in education (should be aware of it or should remain as is). Based on the residuals, mothers were more likely to agree that they "should be aware" of the three items under couple parenting and the six items under fathers' educational participation effects, whereas fathers were more likely to agree that they "should be aware" of these items and that they "should leave it as it is", indicating differences between mothers' and fathers' thoughts.

Table 3: Differences in thoughts about childcare (comparison of mothers and fathers)

		Mothers N=128		Fathers N=150		χ^2	p	ϕ p
		N	Residual	N	Residual			
Perception of co-parenting								
When you think about the other person's position or see their hardships and efforts, you naturally want to help them.	It's fine as it is.	19	-2.0	37	2.0	4.14	.042	.042 *
	You should be aware of it.	109	2.0	113	-2.0			
As a parent, I am establishing basic lifestyle habits and family environment, and sharing responsibilities and roles.	It's fine as it is.	22	-2.6	46	2.6	6.79	.009	.009 **
	You should be aware of it.	106	2.6	104	-2.6			
I value my family and know how they are doing.	It's fine as it is.	29	-2.1	51	2.1	4.34	.037	.037 *
	You should be aware of it.	99	2.1	99	-2.1			
<u>The effects of fathers' participation in education</u>								
There are some aspects of my lifestyle that I should change now	It's fine as it is.	17	-2.3	36	2.3	5.14	.023	.023 *
	You should be aware of it.	111	2.3	114	-2.3			
I am able to share the housework and childcare	It's fine as it is.	19	-2.6	42	2.6	6.98	.008	.008 **
	You should be aware of it.	109	2.6	108	-2.6			
We often do housework together	It's fine as it is.	22	-2.9	49	2.9	8.7	.003	.003 **
	You should be aware of it.	106	2.9	101	-2.9			
They are interested in how to play with and interact with their children	It's fine as it is.	24	-3.4	56	3.4	11.6	.001	.001 **
	You should be aware of it.	104	3.4	94	-3.4			
They enjoy doing housework	It's fine as it is.	23	-2.1	43	2.1	4.37	.037	.037 *
	You should be aware of it.	105	2.1	107	-2.1			
The house is tidy and clean	It's fine as it is.	22	-2.3	43	2.3	5.08	.024	.024 *
	You should be aware of it.	106	2.3	107	-2.3			

Cross tabulation χ^2 Test* p < .05 ** p < .01

Awareness of efforts to promote couple parenting and continuation of efforts

One month after implementing the program to promote couple parenting, we assessed whether or not the respondents were aware of the program. Notably, fathers were significantly more likely than mothers to respond "Yes" to the questions "I am aware of co-parenting efforts" and "I am continuing couple parenting efforts" ($P < .01$; Table 4).

Table 4: Recognition of co-parenting (comparison of mothers and fathers)

		Mothers N=128		Fathers N=150		χ^2	p
		N	Residual	N	Residual		
They are aware of the meaning of co-parenting	Yes	34	-0.4	43	0.4	60.28	.696
	No	94	0.4	107	-0.4		
They remember the content of co-parenting	Yes	23	-1.4	37	1.4	1.83	.176
	No	105	1.4	113	-1.4		
I am aware of the efforts of co-parenting	Yes	21	-2.7	45	2.7	7.05	.008 **
	No	107	2.7	105	-2.7		
I am continuing the efforts of co-parenting	Yes	26	-2.8	53	2.8	7.66	.006 **
	No	102	2.8	97	-2.8		

Cross tabulation χ^2 Test ** : p < .01

Comparison of fathers' and mothers' perceptions of co-parenting, effects of fathers' participation in education, attachment disorder to their children, and EPDS

Perceptions of co-parenting

Fathers' and mothers' perceptions of co-parenting were compared based on their scores on the four subscales of the abbreviated version of the co-parenting perceptions scale. The scores of "emotional support for each other" and "concrete support for each other" were significantly higher for fathers than for mothers ($P < .01$) at the three time points, namely before, immediately after, and 1 month after the couple started parenting.

No significant difference in the "agreement and negotiation on parenting" score were found between fathers and mothers before and immediately after childrearing efforts, but fathers had significantly higher scores than did mothers after 1 month of childrearing efforts ($P < .01$).

The "shared responsibility and difficulties" score was significantly higher for fathers than for mothers ($P < .01$) before and immediately after the intervention, but no significant difference was observed 1 month after the intervention ($P < .01$).

No significant increase or decrease in each subscale was observed after three efforts (Table 5).

Table 5. Subscale scores used in the survey (comparison of mothers and fathers)

Scale name	Mothers N=128				Fathers N=150				
	MEAN	MEDIAN	SD	p ₁	MEAN	MEDIAN	SD	p ₁	p ₂
Abbreviated Version of the Co-parenting Perceptions Scale									
Before the initiative									
Emotional support for each other	2.89	2.88	0.99		3.30	3.25	0.86		.001 **
Specific support for each other	2.82	3.00	0.92		3.24	3.25	0.74		.000 **
Agreement and negotiation on child-rearing	3.00	3.00	0.88		3.09	3.00	0.79		.414
Sharing of responsibilities and difficulties	2.69	2.75	0.74		2.85	3.00	0.74		.045 *
Immediately after the initiative									
Emotional support for each other	3.01	3.00	0.97		3.37	3.25	0.94		.006 **
Specific support for each other	2.96	3.00	0.95		3.35	3.25	0.79		.001 **
Agreement and negotiation on child-rearing	3.09	3.00	0.90		3.26	3.33	0.83		.198
Sharing of responsibilities and difficulties	2.76	2.75	0.82		2.95	3.00	0.74		.038 *
One month after the effort									
Emotional support for each other	2.80	3.00	1.07	.108	3.29	3.25	0.91	.811	.000 **
Specific support for each other	2.78	3.00	1.05	.191	3.26	3.25	0.88	.536	.000 **
Agreement and negotiation on child-rearing	2.92	3.00	0.96	.195	3.17	3.33	0.82	.053	.023 *
Sharing of responsibilities and difficulties	2.90	3.00	0.88	.223	3.01	3.00	0.81	.313	.361
Attachment Disorder Scale for Children									
Before the effort	0.73	0.60	0.54	.000**	0.92	0.85	0.59	.002**	.007 **
One month after the effort	0.94	1.00	0.62		1.06	1.20	0.56		.069
EPDS									
Before the effort	0.77	0.65	0.74	.003**	1.03	1.10	0.73	.819	.002 **
One month after the effort	0.94	1.00	0.72		1.07	1.20	0.72		.161
Father's Participation in Education Scale									
Before the effort									
Effects on children	3.58	3.60	0.69		3.64	3.60	0.59		.800
Social effects on the child	3.48	3.40	0.77		3.52	3.40	0.69		.974
One month after the effort									
Effects on children	3.74	3.80	0.84	.018*	3.58	3.40	0.78	.390	.057
Social effects on the child	3.51	3.50	0.80	.572	3.45	3.30	0.77	.208	.420

p₁ : Comparison of approaches Wilcoxon signed-rank test*: p<.05 **: p<.01 Friedman's test p<.05 ns

p₂ : Comparison of fathers and mothers Mann-Whitney U test (two-tailed) *: p<.05 **: p<.01

After comparing the scores for the four subscales, namely “mutual emotional support”, “mutual concrete support”, “agreement and negotiation of parenting”, and “shared responsibility and difficulties” after 1 month, we found that fathers exhibited a significant decrease in “shared responsibility and difficulties” ($P < .01$). However, no significant change was observed among mothers ($P = .760$).

Improvement of marital parenting recognition

Our previous study found no significant difference in the scores for the Couple Parenting Recognition scale between mothers and fathers, with positive correlations having been observed between the four subscales of the abbreviated version of the co-parenting perceptions scale. In the low group, the subscale “shared responsibility and difficulty” was negatively correlated with the other subscales (Table 6), indicating that improving scores was an issue.

Table 6: Correlation between subscales of the Abbreviated Version of the Co-parenting Perceptions Scale

	Mothers			Fathers		
	Emotional support for each other	Specific support for each other	Agreement and negotiation on child-rearing	Emotional support for each other	Specific support for each other	Agreement and negotiation on child-rearing
Emotional support for each other	.80**	.73**	-.19*	.80**	.58**	-.19*
Specific support for each other		.74**	-.0.17		.53**	-.30**
Agreement and negotiation on child-rearing			-.0.17			-.38**

** . Correlation coefficient is significant at the 1% level (two-tailed)

* . Correlation coefficient is significant at the 5% level (two-tailed)

To identify factors influencing the improvement of the “shared responsibility and difficulties” subscale score, logistic regression analysis was conducted using two values as dependent variables: increase = 1 (high group) and decrease = 0 (low group) for the change (increase/decrease) in the score from immediately after the initiative to 1 month after the initiative. If no change occurred (increase or decrease), the score of the “shared responsibility and difficulties” subscale after one month was determined based on the 25th percentile of the quartile, with a score above 1 indicating the high group and a score below 0 indicating the low group. The forced entry method was used for data on “frequency of communication between the couple”, “attachment disorder to the child”, and EPDS after 1 month of the program, as well for categorical data on “awareness of co-parenting (yes = 1, no = 0)” and “execution of co-parenting (yes = 1, no = 0)”. Variables other than the abbreviated version of the co-parenting perceptions subscale were used to confirm the association between fathers (150) and mothers (128), respectively.

The high group comprised 96 mothers (44.0%) and 122 fathers (56.0%), whereas the low group comprised 32 mothers (55.3%) and 28 fathers (46.7%), with no significant differences between the two groups.

One month after implementation of the program to promote co-parenting, we assessed whether or not the respondents were aware of the program. Notably, fathers were significantly more likely than mothers to respond “Yes” to the questions “I am aware of co-parenting efforts” and “I am continuing co-parenting efforts” ($P < .01$; Table 4).

Comparison of fathers’ and mothers’ perceptions of co-parenting, effects of fathers’ participation in education, attachment disorder to their children, and EPDS

Perceptions of co-parenting

Fathers’ and mothers’ perceptions of co-parenting in childrearing were compared based on their scores on the four subscales of the Co-parenting Perceptions Scale. Scores for “emotional support for each other” and “concrete support for each other” were significantly higher for fathers than for mothers ($P < .01$) at the three time points, namely before, immediately after, and 1 month after the couple started parenting.

Effects of fathers' educational participation on the program according to parent

No significant difference in the perception of the importance of “effects on the child” and “social effects on the child” was observed between fathers and mothers before the program. One month after the program, however, perception of the importance of “effects on children” was significantly higher among mothers than among fathers ($P < .05$; Table 7).

Table 7. Shared Responsibility and the Impact of Difficulties on Mothers and Fathers

Input variables	Mothers N=128						Fathers N=150					
	B	Z	p	Exp(B)	95% confidence interval for EXP(B)		B	Z	p	Exp(B)	95% confidence interval for EXP(B)	
					Lower limit	Upper limit					Lower limit	Upper limit
Frequency of communication between husband and wife	0.65	3.0	.002	1.92	1.26	2.94	-0.41	-1.7	.083	0.66	0.41	1.06
Attachment Disorder Scale for Children	0.08	1.5	.126	1.08	0.98	1.19	-0.05	-1.0	.301	0.95	0.86	1.05
EPDS	-0.06	-1.6	.098	0.94	0.87	1.01	-0.01	-0.3	.767	0.99	0.92	1.06
Awareness of couple parenting efforts 01(1)	0.17	0.3	.797	1.19	0.32	4.46	1.15	2.0	.045	3.15	1.03	9.65
Implementation of couple parenting efforts 01(1)	1.52	2.5	.012	4.56	1.40	14.81	0.69	1.2	.231	2.00	0.64	6.20
Binary logistic regression analysis, forced entry method (1): Categorical covariate (0 = no, 1 = yes) B: Regression coefficient												

The mean cores for “effects on children” based on a 5-point scale [from “very applicable (5)” to “not applicable at all (1)”] did not significantly differ between mothers (3.22) and fathers (3.41) ($P = .089$). Moreover, no significant difference in scores for “effects on the child’s social skills” was observed between mothers (3.06) and fathers (3.27) ($P = .029$), with mothers being significantly lower than fathers.

Correlation analysis showed that mothers’ high perception of the importance of “effects on the child” was also associated with high ratings on fathers’ actual behavior, which was significantly positively correlated with high perceptions of co-parenting. Our findings reaffirmed that the father’s perception of the effectiveness of his educational participation is important but that his actual behavior is more likely to enhance the perception of marital parenting (Table 8).

Table 8: Correlation between Abbreviated Version of the Co-parenting Perceptions Scale and Father’s Participation in Education Scale (by mother/father)

Father’s Participation in Education Scale	Abbreviated Version of the Co-parenting Perceptions Subscale	Mothers N=128		Fathers N=150	
		Effect on child	Social effect on child	Effect on child	Social effect on child
Importance awareness	Emotional support for each other	.208*	.283**	.547**	.567**
	Specific support for each other	.156	.304**	.462**	.514**
	Agreement and negotiation on child-rearing	.079	.183*	.310**	.389**
Actual behavior	Emotional support for each other	.404**	.350**	.275**	.240**
	Specific support for each other	.338**	.357**	.305**	.247**
	Agreement and negotiation on child-rearing	.348**	.341**	.269**	.270**

** Correlation coefficient is significant at the 1% level (two-tailed)

* Correlation coefficient is significant at the 5% level (two-tailed)

Effects of child attachment disorder and EPDS on the subscale scores of the marital parenting perception scale

Fathers scored significantly higher than mothers on the attachment disorder to child and EPDS before the program ($P < 0.01$; Table 7).

With regard to changes in scores for EPDS, 12 mothers and 9 fathers scored “0”, scores for 42 mothers and 64 fathers “decreased”, scores for 9 mothers and 15 fathers showed “no increase or decrease”, and scores for 65 mothers and 62 fathers “increased”. No significant differences in marital parenting recognition subscale scores were observed between the four groups of fathers and mothers.

With regard to changes in scores for attachment disorder to the child, 3 mothers and 0 fathers scored “0”, scores for 41 mothers and 57 fathers “decreased”, scores for 14 mothers and 15 fathers showed “no increase”, and scores for 70 mothers and 78 fathers “increased”. No significant differences in the marital parenting recognition subscale scores were observed between the four groups of fathers and mothers.

A comparison of the fathers’ scores on the perception of marital parenting subscale between the three groups showed that the “decrease” group had significantly higher scores than did the “increase” group after 1 month of “concrete support for each other” ($P < .05$). Regarding the change in subscale scores for the three initiatives within each group, the “decrease” group showed a significant increase in the score for “specific support for each other”. The “no change group” showed a significant increase in the score for “shared responsibility and difficulties” immediately after the intervention ($P < .05$) but showed a significant decrease 1 month after the intervention ($P < .05$). The “increased” group showed a significant decrease in the score for “agreeing and negotiating on parenting” immediately and 1 month after the initiative (Table 9).

Table 9: Comparison of scores on the Marital Parenting Perception Subscale according to changes in the father's attachment disorder to the child
Changes in attachment disorder score to child 3 groups

Subscale	Program participation	decrease N=57			p ₁	No change N=15			p ₁	Increase N=78			p ₁	Multiple efforts comparison p ₁ *	3-group multiple comparison	
		MEAN	MEDIAN	SD		MEAN	MEDIAN	SD		MEAN	MEDIAN	SD			p ₂	p ₂
Emotional support for each other	Before	3.28	3.25	0.86		3.70	3.75	0.81		3.23	3.00	0.86			.172	
	After	3.37	3.25	0.96	.545	3.47	3.50	0.94	.397	3.35	3.25	0.92	.512		.868	
	1 month later	3.49	3.50	0.93		3.27	3.25	0.93		3.15	3.25	0.88			.071	
Specific support for each other	Before	3.12	3.25	0.74		3.70	4.00	0.89		3.25	3.13	0.69			.083	
	After	3.35	3.50	0.80	.013*	3.43	3.50	0.92	.101	3.32	3.25	0.77	.076	1<3	.767	
	1 month later	3.45	3.50	0.89		3.33	3.50	0.95		3.10	3.13	0.83			.011*	Increase< Decrease
Agreement and negotiation on child-rearing	Before	3.05	3.00	0.81		3.24	3.00	0.83		3.09	3.00	0.77			.882	
	After	3.25	3.33	0.90	.501	3.24	3.00	0.91	.767	3.27	3.33	0.76	.016*	3<2	.872	
	1 month later	3.31	3.33	0.90		3.18	3.33	0.91		3.07	3.00	0.74			.085	
Sharing of responsibility and difficulties	Before	2.89	3.00	0.75		2.60	2.50	0.75		2.87	2.75	0.73			.259	
	After	2.95	3.00	0.81	.791	3.10	3.00	0.63	.002**	2.92	3.00	0.72	.345	3<2	.565	
	1 month later	3.01	3.00	0.86		2.63	2.50	0.93		3.07	3.00	0.72		1<2	.068	

p1: Friedman's test

p2: Kruskal-Wallis test Multiple comparisons: Bonferroni test 1: Before the effort 2: Immediately after the effort 3: 1 month later

**p<.01 *p<.05

Impressions of fathers and mothers on the program initiatives

Common changes observed in both fathers and mothers were as follows: “became able to treat each other without getting emotional”, “became more aware of various things by having more conversations as a couple”, “began to talk more”, and “began to do chores that caught their attention instead of asking what to do”. Regarding the differences between fathers and mothers, based on the residuals, fathers were more likely to respond with “I have learned to respect the other person”, whereas mothers were more likely to respond with “Unless he/she is cooperative, he/she does not naturally try to help me” (Table 10).

Table 10. Opinions on the program (comparison of mothers and fathers)

	Mothers N=128				Fathers N=150				p
	Yes		No		Yes		No		
	N	Residual	N	Residual	N	Residual	N	Residual	
<u>Marital relationship</u>									
The relationship became better	2	-1.2	126	1.2	6	1.2	144	-1.2	.226
It became an opportunity to improve the marital relationship	6	0.9	122	-0.9	4	-0.9	146	0.9	.367
I was able to notice things that I had not noticed before	4	-0.4	124	0.4	6	0.4	144	-0.4	.696
I was able to increase the time when the couple was happy together	2	-1.9	126	1.9	9	1.9	141	-1.9	.059
<u>Emotional support for each other</u>									
I was able to consider the feelings of my partner	5	-0.8	123	0.8	9	0.8	141	-0.8	.426
I was able to be kind	2	-1.9	126	1.9	9	1.9	141	-1.9	.059
Even if I was able to do it normally, by being aware of it, I was able to be closer to my partner	6	0.3	122	-0.3	6	-0.3	144	0.3	.779
I was able to interact with my partner without becoming emotional	4	-0.7	124	0.7	7	0.7	143	-0.7	.511
Compassion is something that is easy to forget over time, so I want to remind myself of it from time to time.	7	-0.8	121	0.8	12	0.8	138	-0.8	.404
<u>Specific support for each other</u>									
I started doing chores that caught my eye, rather than just asking	15	-1.2	113	1.2	25	1.2	125	-1.2	.241
I understood how hard child-rearing is.	17	-0.3	111	0.3	22	0.3	128	-0.3	.740
I was more aware of it than usual. It would be a big help if you could continue like this.	9	-0.3	119	0.3	12	0.3	138	-0.3	.761
<u>Agreement and negotiation about child-rearing</u>									
There are more conversations between husband and wife, and I've become more aware of various things.	6	-0.9	122	0.9	11	0.9	139	-0.9	.359
Communication skills improve	4	-1.3	124	1.3	10	1.3	140	-1.3	.178
It becomes a chance for conversation between husband and wife	5	-0.6	123	0.6	8	0.6	142	-0.6	.574
We started talking about it	5	-0.3	123	0.3	7	0.3	143	-0.3	.756
We were able to share our thoughts with each other	4	-0.4	124	0.4	6	0.4	144	-0.4	.696
It was good to be able to take the time to talk about child-rearing, unlike our usual conversations.	4	-0.4	124	0.4	6	0.4	144	-0.4	.696
<u>Sharing responsibilities and difficulties</u>									
I have come to respect the other person more.	1	-2.7	127	2.7	11	2.7	139	-2.7	.007 **
If a person is not cooperative, they won't naturally try to help.	9	2.1	119	-2.1	3	-2.1	147	2.1	.040 *
I couldn't get the other person to understand how hard housework and child-rearing are.	6	0.0	122	0.0	7	0.0	143	0.0	.993
I felt that it would not be easy to change our relationship and the way we spend our time.	6	0.0	122	0.0	7	0.0	143	0.0	.993
I realized that we have different opinions.	5	0.6	123	-0.6	4	-0.6	146	0.6	.561
I feel like I have a deeper understanding of the other person's values.	1	-1.2	127	1.2	4	1.2	146	-1.2	.238

Cross tabulation, chi-square test * p < .05 ** p < .01

Considerations

Impact of the program on co-parenting

Changes in co-parenting

When executing the program, different approaches can be used. Hence, researchers have sought to determine whether the approach from the father or the mother was more effective. In addition, the action considered the content of cooperation is performed between the couple; thus, one needs to consider whether the couple asked for cooperation from their spouses or was asked to cooperate by their spouses. Throughout the course of co-parenting, perceiving each other's thoughts and ideas is necessary so that such thoughts can be communicated in manner that the other spouse can understand and with an understanding of the other spouse's feelings.

This approach helps couples learn to pay attention to and understand each other while holding back, thereby changing their thought processes, which will ultimately allow them to enjoy the company of their families, consider their own roles, and take pleasure in acting and cooperating with each other.

Furthermore, experiencing a sense of fulfillment will help couples accomplish things, while excellent perceptions regarding the words and actions of the other spouse will foster the development of trust and respect. Our findings also seemed to suggest that the change to cooperate is determined by whether such interactions take place. In a study on coming to terms with co-parenting, found that co-parenting is a two-way process and that the solidarity of co-parenting is a process of growing together as parents and performing a unified [21]. The mentioned study also found that co-parenting is a feature of education that symbolizes the affective and enduring quality of forming a subsystem. Another study revealed that co-parenting solidarity can be observed through interactions with the child and the expression of positive feelings between partners about the child [22]. The occurrence of these co-parenting effects is an important focus of the program.

In particular, higher scores on the marital parenting perceptions subscale among fathers than among mothers can indicate increased feelings of trust and respect. Moreover, co-parenting effects may potentially occur when fathers are more significantly affected by the co-parenting effects.

The mothers' feeling that "unless they are cooperative, they will not naturally try to help" was considered to be a situation indicating a gap and discrepancy between each other's opinions, actions, and matters and problems in the relationship. In some cases, the program found it difficult to change the fathers' thinking and behavior. The lack of an interactive process and educational solidarity despite having both mothers and fathers work on the same program requires consideration of other strategies for working with them.

Influence on "shared responsibility and difficulties"

The influence on "shared responsibility and difficulties" for mothers was found to depend on the frequency of communication between husband and wife. Husbands were also found to be influenced by the length of time they spent in contact with their wives and whether or not they were aware of the differences in values between husbands and wives. These were common practices and perceptions of co-parenting efforts shared by both mothers and fathers.

In particular, given that no association was observed between "shared responsibility and difficulties" and the husband's perception of the effect of the father's participation in education, we believed that more time spent in contact with the couple through good communication and awareness of the differences in each other's values would promote longer communication and contact to further understand each other, which could have a positive effect [23]. This finding suggesting that the possibility of shaping the father's involvement through the mother's gatekeeper role. Frequent communication of encouragement, which is a particularly facilitative approach, is especially important because it can act as both a facilitator and an inhibitor with respect to fathers' behavior and involvement.

This finding suggests that frequent communication, especially that which encourages the other spouse, can have a facilitating function and may be an important factor in overcoming “shared responsibility and difficulties”.

Changes in “fathers’ educational participation effects” as a result of the program

Regarding the “effects of fathers’ educational participation”, mothers thought that they “should be more conscious” of changing their lifestyle, sharing housework, childcare, cooperating in housework, playing and interacting with their children, enjoying housework, and keeping the house tidy, whereas fathers thought that they “should leave things as they are”. In addition, after 1 month, a significant improvement was observed for mothers but not for fathers. Furthermore, mothers who were more involved in childrearing were more aware of parental growth. This finding suggests that mothers felt they were trying to improve themselves by objectively reflecting on their own behavior and condition, and they wanted their husbands (i.e., the fathers) to be aware of this. During the parental growth of fathers and mothers [16], commonalities in parental growth and characteristic changes in each have been identified. Mothers who were more involved in childrearing were clearly more aware of their parental growth, although there was agreement that “understanding the difficulties of parenting” was a common point. The development of fatherhood [24] has also been found to be prompted by interest in childrearing and acceptance of the parental role, egalitarian views of gender roles, satisfaction with the marital relationship, and positive perceptions of the relationship with the child, with marital relationships having been found to be the foundation of what is relevant to the effectiveness of fathers’ participation in education.

Changes in EPDS and attachment disorder to children

Fathers scored higher than mothers on the EPDS and attachment disorders toward their children. Meanwhile, mothers showed no significant changes in the Marital Parenting Perceptions subscale scores.

Our findings showed a relationship between fathers’ attachment disorder to their children and co-parenting perceptions subscale scores. In particular, we found that higher subscale scores on the co-parenting perceptions scale indicated a decrease in attachment disorder to their children, reaffirming the synergistic effect of fathers.

We believe that fathers’ anxiety and lack of confidence were influenced by the fact that they spent less time with their children than did the mothers and had more difficulty understanding their children’s situation than did the mothers. One characteristic of fathers’ communication is that they are less likely to self-disclose to anyone other than their wives [25]. Fathers who self-disclose to their wives can also self-disclose to other closely related individuals, but not to closely related people in the opposite case, which may inevitably increase EPDS and attachment disorder to their children. In particular, the study showed that increased co-parenting effectively reduced attachment disorders to the child. According [10], marital parenting was associated with depressive symptoms in fathers, whereas affectional relationships associated with depressive symptoms in mothers. In particular, although “friction” and “inhibition” were found to be associated with depressive symptoms in both fathers and mothers, depressive symptoms in fathers were also associated with “sharing”, presumably due to the burden of being involved in childcare longer in addition to work and the trauma caused by being rejected by their wives, whereas those in mothers were associated with “agreement”, a discrepancy in discipline and educational policy that may be manifested by the mothers.

Future Issues

We believe that a completed version of the program can be established by adopting a strategy that outlines the program’s approach and procedures and by organizing issues through continues implementation of the intervention for actual utilization of the support.

Conclusion

Based on the observed utilization of the program, we believe that certain challenges related to program implementation should be addressed while confirming the clarity of the program, program execution and recognition, shared responsibility, and changes in difficulties. Factors influencing improvement in the “shared responsibility and difficulties” subscale of the shortened version of the couple parenting recognition scale, which had been identified as a challenge for the low co-parenting group, included understanding things clearly and correctly understanding and discriminating their significance and acting on them. Couple communication can also improve relationships, with proactive “emotional support for each other” being key. We emphasize the importance of encouraging fathers to be proactive in their efforts to communicate with their spouses and to remember to appreciate and work with each other, with an emphasis on communication. The finding presented herein highlight the importance of accounting for couple communication when creating programs to foster couple parenting, which has some implications for social services agencies or institutions engaged in promoting couple parenting.

Limitations and Issues of the Study

The intervention was not conducted face-to-face, and the included couples did not cooperate with each other. Instead, participation was left to the other spouses’ attitude and was evaluated based on their responses to a questionnaire. Considering that some people may not be willing to listen at all, asking couples to cooperate in participating in the program and evaluating their efforts would be desirable.

Conflict of Interest

There are no conflicts of interest related to this research.

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Bibliography

1. McHale James., *et al.* “Coparenting in diverse family systems”. In Bornstein, M. H. (ED) Handbook of parenting 2nd edition: Volume 3 Being and becoming a parent. Hillsdale, NJ: Lawrence Erlbaum Associates, Inc. 2 (2002): 75-107.
2. Nakagawa Mari. “Wife’s engagement and husband’s participation in child-raising and housework in working couples”. *Journal of Humanities and Sciences* (2010): 305-313.
3. McBride Brent A., *et al.* “Parental identity, maternal gatekeeping, and father involvement”. *Family Relations* 54 (2005): 360-272.
4. Kato Michiyo., *et al.* “Creation of the marital parenting adjustment scale and cross-sectional examination of changes by parenting time”. *Psychological Research* 84 (2014): 566-575.
5. Kato Michiyo. “Child-rearing attitudes, behaviors, and support resources of mothers in the early years of child-rearing”. *National Women’s Education Center Research Bulletin* 3 (1999): 53-59.
6. Benesse Educational Research Institute. “Pregnancy, childbirth, and childcare basic survey/follow-up survey 2006-2009 Longitudinal Survey” (2011).
7. Benesse Institute of Education. “Survey on Fathers of Infants and Toddlers” (2016).
8. Shimizu Yoshiko. “Marital parenting adjustment patterns and related factors during childrearing”. *Maternal Health* 61 (2020): 340-351.

9. Takeishi Yumiko., *et al.* "Implementing a program to promote co-parenting as part of prenatal education". *The Japanese Journal for Midwives Igaku Shoin* 73 (2019b): 762-767.
10. Yasuno Sayuri., *et al.* "Influence of marital and coparenting relationships on depressive symptoms in parents raising a preschool child". *Journal of Japan Academy of Nursing Science* 43 (2023): 174-182.
11. Oshima Riko., *et al.* "Features of midwives' support at a birth center to promote Co-parenting". *Medicine and Biology* 163 (2023): 1-11.
12. Shimizu Yoshiko. "Short co-parenting awareness scale and the relationship with parenting happiness, parenting stress, and husband's parenting behaviors". *Journal of Nursing and Midwifery Research* 2.1 (2023c): 1-10.
13. Shimizu Yoshiko. "Developing a short version of the co-parenting awareness scale through confirmatory factor analysis: associations with parenting time, number of children, age of children, and prenatal discussions". *EC Pediatrics* 12.10 (2023b): 1-15.
14. Shimizu Yoshiko. "Attempts to Implement a program to promote co-parenting for couples in the parenting phase". *EC Pediatrics* 13.5 (2024): 1-16.
15. Shimizu Yoshiko. "Examination of the effects of a program focusing on the continuation of reinforcement programs for couples in the low-co-parenting group who are in the childrearing and pregnancy period". *EC Pediatrics* 14.1 (2025): 1-15.
16. Shimizu Yoshiko. "Mothers' and fathers' perceptions of child rearing and parental growth". *Japanese Journal of Moral Psychology* 16 (2002): 7-16.
17. Shimizu Yoshiko and Suganuma Nobuhiko. "Developing a new co-parenting awareness scale for measuring effective co-parenting awareness strategies: relationship with attribute/parental awareness development". *Clinics in Mother and Child Health* 20 (2023a): 1000445.
18. kodomo-manabi-labo.net.
19. Keiko Yoshida., *et al.* "A Japanese version of Mother-to-Infant Bonding Scale: factor structure, longitudinal changes and links with maternal mood during the early postnatal period in Japanese mothers". *Archives of Women's Mental Health* 15.5 (2012): 343-352.
20. Cox John L., *et al.* "Detection of postnatal depression: development of the 10-item Edinburgh postnatal depression scale". *British Journal of Psychiatry* 150 (1987): 782-786.
21. Laurie A Van Egeren. "Coming to terms with coparenting: implications of definition and measurement". *Journal of Adult Development* 11.3 (2004): 165-178.
22. McHale James P. "Coparenting and triadic interactions during infancy: the roles of marital distress and child gender". *Developmental Psychology* 31.6 (1995): 985-996.
23. Sarah J., *et al.* "Maternal gatekeeping, coparenting quality, and fathering behavior in families with infants". *Journal of Family Psychology* 22.3 (2008): 389-398.
24. Morishita Yoko. "The effect of becoming fathers on men's development". *The Japanese Journal of Developmental Psychology* 17 (2006): 182-192.
25. Ito Yuriko., *et al.* "Effects of marital communication on relationship satisfaction: focusing on self-disclosure". *Bunkyo Gakuin Journal of Human Studies* 9 (2007): 1-15.

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