Abstract

Purpose: The purpose of this study is to validate the actor effect and partner effect of the relationship between coparenting, marital satisfaction, and happiness of parents with children of early childhood, and also provide data for parents’ education in the field of early childhood education as well as the enhancement of the parents’ marital satisfaction and happiness.

Method: 1305 people from the 7th year (2014) data of the Korean Children’s Panel were selected as the subjects of the analysis, and the actor-partner interdependence model (APIM) was applied by using the SPSS 21.0 and AMOS 21.0 for the analysis.

Results: First, the parents’ coparenting turned out to have a positive effect on happiness, and in terms of the effect of coparenting on happiness, both father’s and mother’s actor effect and partner effect turned out to be significant. Second, the parents’ coparenting turned out to have a positive effect on marital satisfaction, and in terms of the effect of coparenting on marital satisfaction, both the father’s and mother’s actor effect and the counterpart effect turned out to be significant.

Conclusion: Implications were provided through the characteristics of the parents’ intra-individual and marital dimensions on coparenting, marital satisfaction, and happiness of the parents with the children of early childhood, and the importance of coparenting within the family was discussed.

[Keywords] Actor-Partner Effect, Coparenting, Marital Satisfaction, Happiness, Marital Relationship

1. Introduction

Early childhood is a very important stage for the human development, and during this period, infants are significantly influenced by their parents’ nurturing environment, such as social, emotional, cognitive, and language development. Belsky explained various factors of the parental environment through the child rearing process model, and claimed that the children’s development has a complex effect on the psychological characteristics of parents, and the children and environmental characteristics[1]. In this study, in order to examine the influence of parents inside the family, which affects the child rearing among many factors that influence the parenting environment, especially within the family, the relationship between psychological characteristics and parenting environment among the personal characteristics of parents with a focus on marital relationships, Belsky’s child-rearing process model, which emphasized the relationship, was used as a theoretical framework[1].

Given the recent increase in the number of double income couples and the adoption of nuclear families, the culture of coparenting children in the family is expanding. As a result, and since there is a deviation from the consciousness that mother has the primary responsibility for child rearing in early childhood, studies on the change of the parenting environment such as...
marital coparenting through the father's participation in child rearing are being actively conducted[2][3][4]. Furthermore, changes in the family environment change the perception of family's functions and gender roles, and also require fathers raising children to redefine the role of fathers[5]. In line with such changes, fathers also voluntarily participate in child rearing, actively intervene in their relationship with their children, and attempt to successfully balance both the social and family life[6]. That is, the coparenting of parents in the family should be recognized at the cooperative level rather than the individual level of mother and father.

Coparenting through the parenting participation by father is a concept of qualitative factors and communication methods which share parenting roles in the process of raising children[7]. That is, it means sharing the beliefs, values, thoughts, participation level, and emotions of a couple in the process of raising children, and supporting or criticizing each other's parenting behavior as partners[8], and it refers to behaviors that the family wants to support psychologically and physically, cooperate in the presence of children, and integrate[9][10]. Such concept of coparenting is based on the undisclosed father-mother-child interactions and child-bearing interactions in the father-mother-child triad, conveying support or criticism of the spouse to the child, and weakening or consolidating the spouse's role, conflicts between husband and wife at the time of marriage, and parents' measures of discipline for their children, etc., are included[11]. The parents' coparenting strengthens or weakens the marital relationship through conflicts and harmony within the family, thereby forming a nurturing environment, which in turn affects the development of children[12].

Meanwhile, the father's participation in parenting affects the mother's psychological variables within the family, and coparenting, including parental cooperation, is an important factor in the family's parenting environment. From the perspective of the family systems theory, child rearing focuses on the dynamics of interactions which support or weaken the father-mother dynamics[13]. Unlike the traditional parenting environment, the couple's coparenting affects the various psychological variables of the mother as the father participates in the child rearing process[14][15][16]. Furthermore, coparenting, including parental cooperation, is an important factor in the psychological environment of the family, and by alleviating or amplifying parenting conflicts, it forms the psychological environment of the family, and leads to conflict or harmony in the couple, which affects the development of children[12]. That is, the spouse's participation in parenting through feelings, recognition, communication, and empathy affects the behavior and psychology of the other spouse[17]. Belsky emphasized the psychological characteristics of parents as a major factor influencing child rearing[1]. In particular, the terms which refer to positive psychological characteristics are mixed with terms such as subjective well-being, happiness, positive emotion, life satisfaction, and marriage satisfaction[18][19], and the higher the level of satisfaction, the higher the likelihood of positive parenting behavior towards children[1]. It has been reported that there is a relationship between parental marital satisfaction and happiness. It has also been reported that the greater a couple perceives marital satisfaction, the better their psychological well-being, that is, a feeling of happiness, and the lower the feeling of depression[20][21][22].

The studies above suggest that the parents' coparenting not only has a positive effect on the children's development, but is also related to the psychological and emotional characteristics such as the parents' own sense of well-being. The parents' coparenting is related to parental happiness or marital satisfaction, and as such characteristics are affected by the parents' coparenting, it may be inferred that a dynamic and cyclical causal relationship between variables is formed. That is, the parents' coparenting can establish a theoretical hypothesis which forms a relationship of mutual influence on marital satisfaction and happiness. Furthermore, considering that marital coparenting, marital satisfaction, and happiness are not only influenced by the father-mother individually, but also by the spouse, it is necessary to analyze the mutual influence. However, there has been no study conducted as to how the related variables are
affected by the problems between the spouses as well as the problems of the father and mother themselves. As for the analysis of the relationship between variables on the mutual influence of fathers and mothers with the children of early childhood, information on the mutual influence relationship between husband and wife when analyzed individually, without taking into account the fact that a parenting environment through interaction within the home is provided, cannot be obtained. Hence, it is absolutely necessary to apply the actor-partner interdependence model to understand the interaction patterns of father and mother, who are in a significant relationship such as parents that significantly influence each other [23][24].

Hence, this study applies the APIM model for the coparenting, marital satisfaction, and happiness of father and mother with the children of early childhood, taking into account the characteristics of the data that each paired father-mother variable can have on themselves or the other, by applying the APIM model with the purpose of seeking to validate the intra-individual effect and the inter-individual interaction effect. Furthermore, it seeks to find ways to promote the parents’ coparenting, marital satisfaction, and happiness, and also provide data for the development of parental education programs in consideration of the psychological characteristics of fathers and mothers. The research questions set for this purpose are as follows.

First, what is the actor-partner effect of the parents’ coparenting on happiness?
Second, what is the actor-partner effect of the parents’ coparenting on marital satisfaction?

2. Research Method
2.1. Research subject

As for the subjects of this study, the 7th year (2014) data of the Korea Children’s Panel (PSKE) collected by the Research Institute for Parenting Policy (KICCE) were used. A total of 1,305 people were used for the final analysis, excluding the data which did not respond faithfully to the major variables of this study, such as coparenting, marital satisfaction, and happiness. As for subject of the 7th year analysis, the age of father was 39.36 years old (SD = 3.947), the age of mother was 36.77 years old (SD = 3.624), and the age of the children was 75.09 months (SD = 1.409, 1249 (96.5%) fathers were working or concurrently working and studying (including leave from work), 46 (3.5%) were unemployed. 578 (44.9%) mothers working or concurrently working and studying (including leave from work) and 709 mothers (55.1%) were unemployed. Furthermore, 969 fathers (74.3%) and 953 mothers (73.0%) graduated from community college or higher, each respectively.

2.2. Tools of Measurement
2.2.1. Coparenting of parents

As for the measure of the parents’ coparenting, the coparenting measure developed by Mchale[11] was modified and adapted by the Korean Children’s Panel research team. The parents’ coparenting measure was divided into two situations and was consisted of a total of 16 questions, one for the situation in which the spouse and children are together and the other for the situation where the spouse is with the child in the absence of spouse. Each question is consisted of a Likert 7-point scale from 1 point of ‘Not at all’ to 7 points of ‘Very much,’ and the score ranges from the lowest of 16 to the highest of 112 points. As for the parents’ coparenting, the higher the score, the higher the coparenting characteristics. The questions were consisted of ‘Express your child with physical affection (hugging, touching, a d kissing)’, ‘Tell the child about their parents in a pair (mom and dad!), or one family unit (my family), and ‘Say it together
as a family (our family!).' The degree of internal agreement (Cronbach’s α) between the questions of coparenting was .878 for father and .844 for mother.

2.2.2. Marital satisfaction

As for the parents’ marital satisfaction scale, Chung’s Kansas Marital Satisfaction Scale (KMSS) was modified by the Korean Children’s Panel research team to fit the Korean culture. This scale was consisted of 4 questions, and each question is composed of a Likert 4-point scale ranging from 1 point for 'Not at all satisfied' to 4 points for 'Very satisfied', and the score ranges from 4 to 16 points. Furthermore, the higher the score, the higher the extent of marital satisfaction perceived by the parents. The questions consisted of ‘How satisfied are you with your husband (wife) as a spouse?’ and ‘How satisfied are you with your marriage life?’ The extent of internal agreement (Cronbach’s α) between questions was .915 for father and .908 for mother.

2.2.3. Happiness

As a measure of the parents’ happiness, a modified version of the subjective happiness scale of Lyubomirsky and Lepper by the Korean Children’s Panel researchers was used. It was consisted of a total of 4 questions, and is composed of a Likert 7-point scale, and the score ranges from 4 to 28. Furthermore, the higher the score, the higher the feeling of happiness. The questions were consisted of ‘Overall, I am a very happy person’ and ‘I am very happy compared to other people’. The internal agreement between questions (Cronbach’s α) was .867 for father and .867 for mother.

2.3. Analytical method

In this study, by using the SPSS 21.0 and AMOS 21.0 programs, the actor effect and partner effect of the relationship between coparenting, marital satisfaction, and happiness of fathers and mothers with children of early childhood was verified via the partner interdependence model (APIM) for analysis. People who are in a bilateral relationship, such as a couple, not only influence the other’s cognition, emotion, and behavior, but also form a pair like a couple and become independent from each other because there is interdependence between the two (Cook & Kenny, 2005), and hence, as for the research subjects who are human, analysis should be conducted using couples as the unit of analysis.

The actor effect refers to the effect such that one’s own psychological characteristics or behaviors have on the self, and the partner effect refers to the effects of one’s own psychological characteristics or behaviors on the other person. The maximum likelihood method (ML) was used to estimate the model coefficients in the structural model analysis, and to evaluate the fit of each model, the generally recommended absolute fit index (RMSEA) and model relative fit index (TLI, CFI) were used. Generally, TLI and CFI are more than .90, RMSEA is judged as good fit if less than .05, good fit if less than .08, moderate fit if less than .10, and bad fit if more than .10. Furthermore, in this study, two question parcelings suggested by Russell, Kahn, and Altmäier were produced for each variable prior to model validation, and question parceling was fixed as one factor in each variable. After the exploratory factor analysis was conducted, two packages were allocated based on the factor load, and similar factors were generated for the latent variables.

3. Research Results

3.1. Validation of measurement model

Prior to the analysis of this study, the mean, standard deviation, skewness, and the kurtosis were calculated to check as to whether the normal distribution assumptions for the parents’
coparenting, parents’ marital satisfaction, and the parents’ happiness, which are the main variables, were satisfied. To investigate, the Pearson’s correlation coefficient was calculated. As illustrated in Table 1 below, the skewness of the 12 measurement variables is between -0.528 and 0.007, while the kurtosis is between -1.026 and -0.436, and the value did not exceed 3. Through which, it was confirmed that the absolute values of the skewness and kurtosis of the 22 measurement variables were within the standard values (Kline, 2005; West, Finch, & Curran, 1995), thereby satisfying all the standard values assuming the normal distribution of the data. Based on which, it was also confirmed that the absolute values of the skewness and kurtosis of the 12 measurement variables were within the reference value range, thereby satisfying all the standard values assuming the normal distribution of the data.

Table 1. Inter-measurement variables correlation and descriptive statistics. (N=127)

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<td>.341**</td>
<td>.371**</td>
<td>.414**</td>
<td>.424**</td>
<td>.443**</td>
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<td>SD</td>
<td>3.30</td>
<td>3.82</td>
<td>3.63</td>
<td>3.92</td>
<td>1.15</td>
<td>1.14</td>
<td>2.04</td>
<td>2.06</td>
<td>1.07</td>
<td>1.08</td>
<td>1.08</td>
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Skewness  | -0.40 | -0.02 | -0.09 | -0.01 | -0.25 | -0.33 | -0.30 | -0.29 | -0.53 | -0.49 | -0.53 | -0.15 |

Kurtosis  | -0.56 | -0.61 | -0.57 | -0.45 | -0.56 | -0.45 | -0.44 | -0.73 | -0.73 | -0.85 | -0.71 | -1.03 |


3.2. Analysis of the actor effect and partner effect of the parents' coparenting on the parents' happiness

In order to examine the actor effect and partner effect of the father’s and mother’s coparenting on their happiness, a model was constructed as illustrated in Figure 1. The conformity of the actor-partner effect model of the father’s and mother’s coparenting on their happiness was X2(df=14)=39.284, p<.001, TLI=.990, CFI=.995, RMSEA=.037, indicating a good conformity. It was confirmed that the model explained the analytical data very well.
Coparenting of father and mother turned out to have a positive effect on their happiness, and both the actor effect and the partner effect turned out to be significant. To compare the relative influence of the actor effect and partner effect of the father’s and mother’s coparenting, a total of 4 equivalent constraint models were set as illustrated in <Table 2>. The equivalence constraint model was consisted of (1) comparison of the father’s and mother’s actor effects of coparenting on happiness (A=B), (2) comparison of the father’s and mother’s partner effects of coparenting on happiness (A’=B’), (3) comparison of actor effect and partner effect of coparenting affecting the father’s happiness (A=B’), and (4) comparison of actor effect and partner effect of coparenting affecting the mother’s happiness (A’=B). The analytical results of the equivalence constraint model are illustrated in <Table 2>, and as a result of analyzing as to whether there is a statistically significant difference between each equivalence constraint model and the basic model through the X2 difference test, first, the effect of coparenting on the happiness of father (β=.52) and mother (β=.46) demonstrated no statistically significant difference for the actor effect. That is, it is evident that there is no difference in the tendency towards happiness as the father’s and mother’s coparenting is higher. Second, it turned out that there was a statistically significant difference in the relative effect of coparenting on happiness between father (β=.09) and mother (β=.24). Specifically, it was confirmed that the mother’s partner effect turned out to be greater than the father’s partner effect. Third, there was a statistically significant difference between the mother’s actor effect (β=.46) and the father’s partner effect (β=.09) of coparenting on happiness. That is, it means that the mothers’ own coparenting has a greater effect on their happiness than their father’s coparenting. Fourth, there was a statistically significant difference between the father’s actor effect (β=.52) and the mother’s partner effect (β=.24) on coparenting’s happiness. This means that father’s own coparenting has a greater effect on happiness than the mother’s coparenting.

Gathering the results above, the effect of coparenting of father and mother with the children of early childhood on happiness turned out to have no difference between spouses in terms of the effect of spouse’s coparenting on their own happiness, yet it turned out that there was a significant difference between the partner effect. It is apparent that there is no difference in terms of the effect of coparenting on the happiness of parents with the children of early childhood, yet the happiness of both father and mother is more affected by their own coparenting rather than the other’s coparenting.

Table 2. X2 difference validation between the basic model and the equivalent constraint model.

<table>
<thead>
<tr>
<th>Model</th>
<th>$\chi^2$</th>
<th>df</th>
<th>TLI</th>
<th>CFI</th>
<th>RMSEA</th>
<th>$\triangle\chi^2(\triangle df)$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic model</td>
<td>39.284***</td>
<td>14</td>
<td>.990</td>
<td>.995</td>
<td>.037</td>
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</tr>
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### 3.3. Analysis of the actor effect and partner effect of the parents' coparenting on the parents' marital satisfaction

In order to examine the actor effect and partner effect of the father’s and mother’s coparenting on their marital satisfaction, a model was constructed as illustrated in Figure 2. The conformity of the actor-partner effect model on the effect of the father’s and mother’s coparenting on their happiness is $X^2(\text{df}=14)=50.617$, $p<.001$, TLI=.989, CFI=.995, RMSEA=.045, demonstrating a good model conformity, thereby confirming that the model explained the analysis data very well. Coparenting of father and mother turned out to have a positive effect on their marital satisfaction, and both the actor effect and the partner effect turned out to be significant.

**Figure 2.** The actor effect and partner effect of the parents' coparenting on the parents' marital satisfaction.

<Table 3> below illustrates the results of $X^2$ difference validation based on the equivalence constraint model No. 4 in order to relatively compare the magnitudes of the actor effect and partner effect of coparenting of parents with the children of early childhood on marital satisfaction. Analyzing the results, first, the actor effect of coparenting on marital satisfaction of father ($\beta=.39$) and mother ($\beta=.45$) turned out to have a statistically significant difference. That is, it is evident that the higher the coparenting of fathers and mothers, the greater the tendency to positively affect marital satisfaction. Second, the relative effect of coparenting on marital satisfaction between father ($\beta=.19$) and mother ($\beta=.18$) turned out to have no statistically significant difference. Third, there was a statistically significant difference between the mother’s actor effect ($\beta=.45$) and the father’s partner effect ($\beta=.19$) of coparenting on marital satisfaction. That is, it means that the mother’s own coparenting has a greater effect on marital satisfaction than the father’s coparenting. Fourth, there was a statistically significant difference between father’s actor effect ($\beta=.39$) and mother’s partner effect ($\beta=.18$) on marital satisfaction of coparenting. This means that the father’s own coparenting has a greater effect on marital satisfaction than the mother’s coparenting.

<table>
<thead>
<tr>
<th>Constraint model 1 (a=b)</th>
<th>39.443***</th>
<th>15</th>
<th>.969</th>
<th>.984</th>
<th>.035</th>
<th>$X^2(1)=0.159$</th>
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<tr>
<td>Constraint model 2 (a'=b')</td>
<td>96.886***</td>
<td>15</td>
<td>.991</td>
<td>.995</td>
<td>.065</td>
<td>$X^2(1)=57.602$***</td>
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<tr>
<td>Constraint model 3 (a=b')</td>
<td>55.041***</td>
<td>15</td>
<td>.985</td>
<td>.992</td>
<td>.045</td>
<td>$X^2(1)=15.757$**</td>
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<td>Constraint model 4 (a'=b)</td>
<td>100.090***</td>
<td>15</td>
<td>.968</td>
<td>.983</td>
<td>.066</td>
<td>$X^2(1)=60.806$***</td>
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Note: **p<.01, ***p<.001.
Gathering the results above, the effect of coparenting between the father and mother with the children of early childhood on marital satisfaction does not differ between spouses in terms of the effect of spouse's coparenting on their own marital satisfaction, and both the father and mother have no difference in marital satisfaction. It is also apparent that both father and mother are more affected by their own coparenting than the other’s coparenting.

Table 3. $X^2$ difference validation between the basic model and the equivalence constraint model.

<table>
<thead>
<tr>
<th>Model</th>
<th>$X^2$</th>
<th>df</th>
<th>TLI</th>
<th>CFI</th>
<th>RMSEA</th>
<th>$\Delta X^2(\Delta df)$</th>
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<tbody>
<tr>
<td>Basic model</td>
<td>50.617**</td>
<td>14</td>
<td>.989</td>
<td>.995</td>
<td>.045</td>
<td>-</td>
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<tr>
<td>Constraint model 1</td>
<td>66.18**</td>
<td>15</td>
<td>.986</td>
<td>.992</td>
<td>.051</td>
<td>$X^2(1)=15.563**$</td>
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<td>(a=b)</td>
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<tr>
<td>Constraint model 2</td>
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<td>.99</td>
<td>.995</td>
<td>.043</td>
<td>$X^2(1)=.375$</td>
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<tr>
<td>Constraint model 3</td>
<td>58.655**</td>
<td>15</td>
<td>.988</td>
<td>.994</td>
<td>.047</td>
<td>$X^2(1)=8.038**$</td>
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<td>Constraint model 4</td>
<td>96.979**</td>
<td>15</td>
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Note: **p<.01, ***p<.001.

4. Discussion and Conclusion

In this study, the actor effect and partner effect of the relationship between coparenting, happiness, and marital satisfaction of father and mother with the children of early childhood were sought to be validated by using the actor-partner interdependence model. This is meaning in that it was possible to analyze the interpersonal and interpersonal interaction characteristics of father and mother on marital coparenting, happiness, and marital satisfaction, and also understand the phenomenon of interactions between father and mother in child rearing in detail. The research results and implications are as follows.

First, the actor effect and partner effect of father and mother on the happiness of the parents with the children of early childhood turned out to be both significant. As a result of comparing the size of the effect, it turned out that there was no significant difference in terms of the father and mother actor effect, and there was a significant difference in the interaction effect of father and mother coparenting on happiness. Specifically, it was confirmed that the mother’s partner effect was greater than that of the father’s partner effect, thereby confirming that mother’s coparenting had a greater effect on the father’s happiness. Furthermore, in terms of the effect of coparenting on happiness, both mother and father turned out such that the actor effect had a greater effect than the partner effect, and the couple felt a greater sense of happiness in coparenting themselves than the other’s coparenting effect. Such results are supportive of the previous studies[34][35] that marital relationship affects the psychological characteristics of the mother, and that the husband’s support perceived by the mother affects the psychological well-being of the mother, and the research results[36] that the marital relationship on the psychological well-being of the father partially influences the quality of parent-child relationship.

Second, coparenting of father and mother with the children of early childhood turned out to have a positive effect on marital satisfaction in general, and both the actor effect and the partner effect turned out to be significant. In particular, as a result of comparing the size of the
effect, the actor effect was not significant, yet it turned out to be greater than the partner effect. That is, both father and mother had a greater effect on their marital satisfaction by their coparenting. Furthermore, there was no difference between father and mother in terms of the effect of coparenting on marital satisfaction. Such results are in line with the previous studies[37] which claimed that the family-integrated coparenting affects the mother’s marital satisfaction, and the previous studies which claimed that supportive and positive coparenting occurs when the quality of marital relationship is positive and satisfaction is higher[37][38]. Furthermore, they are similar to the previous studies[39][40] which claimed that when the marital satisfaction is low due to marital conflict or negative emotions within the household, a low level of coparenting relationship is demonstrated and transferred to negative parenting behaviors.

In this study, the relationship between the father’s and mother’s coparenting, happiness, and marital satisfaction is not different from the pattern of mother and father, but rather mutually influence each other within the marital relationship, and father and mother are affected by each other’s happiness and marital satisfaction. Furthermore, it was confirmed through the previous studies and the results of this study that such feeling of happiness and marital satisfaction leads to parenting behavior and also affects the development of children.

Hence, it suggests that in order to activate the parents’ coparenting and perform positive parenting in an interdependent marital relationship, it would be effective if and when both spouses make an effort to increase their own happiness and marital satisfaction together. Furthermore, the parents’ participation in parenting is facilitated when effective communication is established between husband and wife. The more positive the marital relationship, the greater the likelihood of positive communication, and positive communication seems to have a positive effect on the spouse’s marital life and parenting behavior. Furthermore, since marital relationship is the closest relationship in the family, a psychologically strong attachment is formed[41], and hence, a healthy married life would have a positive effect on each other’s parenting behavior. In this study, the partner effect of coparenting on marital satisfaction and happiness turned out to be significant for the couple, which supports the results of the previous studies[37][40] which claimed that a couple can undermine the nurturing of the other spouse. As such, a spouse’s emotions and perceptions affect the behavior of the other spouse[42], and discriminatory behavior between husband and wife within the family would affect the other and also affect the quality of coparenting[43].

Father and mother, as each spouse, would have their emotions and perceptions influence the other’s parenting behavior[44], and such influences would likely determine the quality of parenting, and hence, conflicts may be resolved through positive marital relationships, thereby sharing the parent’s role in child rearing[45][46]. It would also be necessary to support each other’s parenting by engaging in the mutually recognizable parenting behaviors.

Such results demonstrate that the more satisfied a couple is with their marital relationship or married life, the happier they feel. Furthermore, psychological characteristics such as marital satisfaction and happiness affect the other spouse and determine the quality of parenting. Hence, coparenting through the effective and positive communication between husband and wife can increase marital satisfaction and their sense of happiness, and further influence the positive parenting behavior, and hence, the positive development of children can be expected.

This study has validated the actor effect and partner effect of the parents’ coparenting on their happiness and marital satisfaction. Towards this end, by using data from the 7th year of the Korean Children’s Panel sampled across the nation, the causality between variables was examined, and this study was meaningful in that it proved the differentiated influence of the aspect of marital interaction through the interdependence of husband and wife and the importance of coparenting.
5. References

5.1. Journal articles


5.2. Thesis degree


5.3. Books


5.4. Additional references


6. Appendix

6.1. Authors contribution

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