

Is Inheritance Fair in South Korea? The Difference in Inheritance Allocation According to Birth Order, Gender, and Caregiving Contribution

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Abstract

The objective of this study was to provide empirical evidence on whether the inheritance behaviors of modern Korean society break away from traditional patriarchy and bequests are fairly distributed according to the caregiving contribution. This study evaluated the effects on the inheritance allocation proportion of birth order, gender, and the contribution of children as caregivers, using the first six waves of Korean Longitudinal Study of Aging (KLoSA) data, which surveys the South Korean population aged 45 and over. This study conducted a multi-level tobit model analysis on 1,587 deceased parents (level 2) and their 6,054 children (level 1). The analysis results of the multi-level tobit model showed that the eldest son had a 27–32 percentage points higher inheritance allocation proportion than the eldest daughter, while the proportions of the second-eldest and younger daughters was 17–19 percentage points less than that of the eldest daughter. However, the caregiver role before parents died did not significantly affect inheritance allocation proportions. The results suggest that, although the current law stipulates that inheritances should be allocated according to the caregiving contribution at the end of life, patriarchal birth order and gender norms strongly affect inheritance allocation behaviors. The results imply that practical alternatives need to be found in order to eliminate gender inequality and respect the value of caregiving in intergenerational inheritance in cooperation with gender equalitarian.

Key words

birth order and gender, care, inheritance, intergeneration, patriarchy

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Introduction

The life of an individual ends with death. However, the next generation receives a legacy through inheritance. In both eastern and western pre-modern societies, it meant not only the transfer of property but the succession of mainstream status in the family (Lambek, 2011; Nauck, 2010). Identifying the main heirs is crucial for understanding the movement and dynamics of pivotal power within the family and society (Chang & Luo, 2015). In modern society, inheritances can cause happiness, solidarity, confrontation, tensions, or conflicts among family members in relation to apportioning a legacy (Lee, 2015). The inheritance, which is an important source of asset accumulation for individuals, affects people's consumption and saving behaviors (Zagorsky, 2013). Moreover, the transfer of wealth between generations can also result in the consolidation of social classes and inequality at the societal level (Korom, 2016; Szydlik, 2012). Therefore, inheritance is a complex power phenomenon, and it must satisfy the requirements of justice and fair principles (Lambek, 2011; Stum, 1999). In order to make it righteous and fair, the phenomenon of inheritance behaviors must be examined objectively.

Inheritance is also very important in relation to patriarchy and gender. Eldest-son-oriented inheritance can be explained by the intersectionality theory that superimposes the birth order on gender. In a society where a patriarchal culture dominates, the sons receive more of the inheritance than the daughters (Bhalotra, Brulé, & Roy, 2018; Nauck, 2010), and the eldest son in particular has a dominant right to the inheritance. The daughters and the sons other than the eldest son, who receive fewer bequests, become nonmainstream in society. Birth order and gender are innate characteristics that cannot be changed, but they act as factors of oppression throughout the life course. Therefore, this poses a more serious issue. Sons have been preferred in order to inherit the family's assets and power. This preference results in the abortion of female fetuses, and some parents continue to have children until they have a son (Kim, Choi, & Cha, 2008). Public opinion and solidarity on this issue needs to be strengthened so that the social problems stemming from primogeniture, the linking of birth order and gender, no longer persist.

This study aims to ascertain whether inheritance behavior in modern Korean society is equal regardless of birth order and gender and is distributed fairly according to the caring contribution before death in order to prepare objective data on the phenomenon, as a preliminary step toward a social movement. Confucianism was the main social norm during the Joseon Dynasty (14th–19th century), and it provided the foundation of patriarchy. Primogeniture was main-

tained even while Korea went through the Japanese colonial era (the first half of the twentieth century) and compressed modernization (the 1950s–the 2000s). The Korean Family Law was amended in 1991 to encourage the bequeathing of assets equally to all children regardless of their birth order and gender but also in proportion to their contribution to the care of their parents before their deaths (Hwang & Kim, 2014). Hwang and Kim (2014) reported that the revision of the law had a positive effect and that the elderly in South Korea became universally aware of the principle of inheritance by equal distribution. On the other hand, Nam, Lee, and Choi (2015), who analyzed judicial decisions, and Lee (2015), who conducted in-depth interviews with families who had gone through inheritance processes, argued that actual inheritance was still favoring the eldest son and that family members had experienced conflicts among them as a result. There are only a few quantitative studies available showing that inheritance intentions, plans, and perceptions are affected by the socio-demographic characteristics of deceased parents and their children, while the issue of inheritance in South Korea is still controversial. In this regard, previous studies such as Lee (2015) and Hwang and Kim (2014) suggested that future studies should test inheritance behaviors in South Korea empirically using representative data.

The ultimate goals of this study were to raise social interest and strengthen the solidarity of equalitarian for reform by posing academic questions in relation to the traditional patriarchal norms and existing oppression against women. In order to achieve these goals, this study empirically examined the effects of birth order, gender, and contribution as a caregiver before death on the inheritance allocation rate, using data relating to deceased individuals from the first to the sixth waves of the Korean Longitudinal Study of Aging (KLoSA), which is a representative survey of South Korea. Our study has significant advantages in its study methods since it is based on a multi-level structure composed of 1,587 parents and 6,054 children and uses a random-effect tobit model, which can include children who did not receive an inheritance. The specific research questions reflecting these improvements are as follows: how do birth order, gender, and role as caregiver before the death of a parent affect inheritance allocation proportion after the parent's death?

Theory and Literature Review

Intersectionality: Birth Order, Gender, and Social Norms

In the socio-cultural context of Korea, the phenomenon of birth order and gen-

der affecting inheritance allocation can be explained by the intersection theory emphasized in third-wave feminism. Intersectionality is a theory associated with this wave, and its main argument is that the complex operational mechanism of an oppression mechanism is not revealed when a group is divided solely by gender due to the overlap with or superimposition of other characteristics (e.g., race, hierarchy, or religion) (Cho, Crenshaw, & McCall, 2013). The main focus of this study is patriarchy and inheritance in South Korea. In this case, the main heir is the eldest son among direct family members in the paternal line. Therefore, the power is mostly inherited by one eldest son satisfying the specific condition. It is necessary to divide siblings into the eldest daughter, the eldest son, other sons, and other daughters to understand the oppression mechanism in the inheritance allocation. However, previous studies examining the effect of gender or focusing on the difference between the eldest son and other siblings have overlooked the difference between the eldest daughter and the sons other than the eldest son and that between the eldest daughter and the other daughters (Bae, 2008; Park, Whang, Jung, & Lee, 2014). Therefore, our study emphasizing intersectionality analyzes not only the gender difference between the eldest son and eldest daughter but also the difference in the inheritance allocation within daughters (the eldest daughter vs. the other daughters).

The relationship among inheritance, birth order, and gender vary depending on the socio-cultural context in which social norms work (Szydlik, 2012). In Australia and Sweden, bequests tend to favor over men (Erixson & Ohlsson, 2018; Kelly & Harding, 2006). In Sweden or the United States, a youngest daughter who mainly takes care of the parents can become the main heir (Erixson & Ohlsson, 2018; Light & McGarry, 2004). Unlike in these bilinear and gender-equal countries, however, traditional attitudes still operate in patrilineal familism-dominant Asian countries such as India and China (Jayachandran, 2015; Jiang, Li, & Feldman, 2015; Nauck, 2010). As such, Nauck (2010) reported that the gender of a child has until recently been strongly correlated with inheritance. The patriarchal and inheritance norms favoring only the eldest son even among sons generates a hierarchical gap among the children, and it may lead to a decline in the social hierarchy for younger daughters because of their disadvantages in inheritance (H. Kim, 2008; Lee, 2015). Although it has been studied in India and China (Bhalotra et al., 2018; Deininger, Goyal, & Nagarajan, 2013; Jayachandran, 2015; Jiang et al., 2015), the issues of gender inequalities and gaps in inheritance have hardly been discussed in South Korea, a society built on a similar socio-cultural background.

Strategic Inheritance Motive Theory: Inheritance as Compensation for Caregiving Contributions

Many previous studies have explained the inheritance process from parents to children based on strategic inheritance motive theory (Chang & Luo, 2015; H. Kim, 2008). This theory is also called the exchange inheritance motive theory, and it explains that inheritance allocation is determined by the degree of support provided by children (Caputo, 2005; H. Kim, 2008). Using the Young Women's Cohort of the National Longitudinal Surveys, Caputo (2005) analyzed 399 young females living in the United States who provided caregiving to their parents in the later part of their lives in terms of whether they received an inheritance. In other words, children try to secure their right to an inheritance by providing care at the end of their parents' lives. It seems logical and reasonable to suggest that the exchange inheritance motive theory can be applied to South Korea. Since the mid-Joseon Dynasty (the 1600s), the eldest son has received preference has had the inheritance priority (Hwang & Kim, 2014; Kim & Hwang, 2013; Nam et al., 2015). However, the Family Law was revised in 1991 according to the principle of inheritance by equal distribution, and the patriarchal family system was abolished. Moreover, current regulations stipulate that children who have cared for their parents are supposed to inherit but it is unclear whether these children actually received inheritance proportional to the amount of caregiving to the parents. C. Park (2014) analyzed parent–children pairs (596 parents, 1,504 children) using the Korean Labor & Income Panel Study and reported that it was difficult to find evidence that children cared for their parents in order to receive an inheritance from them in the future. Therefore, this study aims to compare the intersectionality between birth order and gender based on the traditional socio-cultural norms of Korea and the contribution as a caregiver before a parent's death based on the strategic inheritance motive theory, and see which theory works better in reality.

Socio-Demographic Characteristics and Inheritance of Parents and Children

Most studies conducted in South Korea analyzed judicial decisions and requested legal amendments (Lee, 2015; Nam et al., 2015). Not many studies have conducted quantitative statistical analysis by surveying families who have gone through the inheritance process (Hwang & Kim, 2014; Lee, 2015; C. Park, 2014). After conducting in-depth interviews with siblings who experienced parental deaths and inheritance and analyzing their relationships qualitatively based on

grounded theory methods, Lee (2015) suggested that quantitative studies should be conducted in the future to identify variables affecting the inheritance process. The quantitative studies carried out in South Korea only measured inheritance intention, inheritance plans, and inheritance perceptions as dependent variables rather than the inheritance behavior itself (H. Kim, 2008; Y. Kim, 2013; C. Park, 2014; Park et al., 2014) but, as far as we know, no study has analyzed inheritance behaviors in Korea.

Prior to discussing the original insights we intend to develop in this study, we wish to review the results, contributions, and suggestions of previous studies for future research, which identified that there was no difference in inheritance intentions, inheritance plans, and inheritance perceptions arising from the characteristics of parents and children. Kim, Hwang, and Kim (2012) phoned 1,000 South Koreans (≥ 50 years old) to understand the public's perception of the most desirable inheritance procedure. The majority (66%) responded that an inheritance should be evenly distributed to all children, with 15% recommending a relatively even distribution but giving a little more to the eldest son. Other less common answers were returning assets to society (7%), inheritance only to the eldest son (5%), inheritance only to children who looked after parents (5%), and even distribution between sons but omitting daughters (2%). The 2011 National Survey of Living Conditions and Welfare Needs of Older Koreans representing the elderly (≥ 65 years old) in South Korea also showed similar results (Kang, 2012). The majority (67%) responded that it was most desirable to bequeath assets evenly between children, with 21% saying more should be bequeathed to the eldest son, 10% only to the eldest son, and 2% only to sons. From their results, Hwang and Kim (2014) and Kang (2012) concluded that the traditional inheritance method had been dismantled and inheritance had become equal and diverse in South Korea. However, we believe that the results of these studies only reflect opinions about desirable inheritance procedures, not actual inheritance behavior, and that those results may therefore not be reflected in actual inheritance behaviors.

Many previous studies have consistently reported that inheritance decisions are closely related to the socio-demographic characteristics and death-related characteristics of parents (Bae, 2008; Kang, 2012; H. Kim, 2008; Y. Kim, 2013). Age, gender, education, marriage status, and assets are among parents' socio-demographic characteristics that affect preferences for how bequests are made (Kim & Hwang, 2013; Park et al., 2014). They showed a stronger preference for a son-centered traditional inheritance approach when they were older, had a lower level of education, did not have a spouse, and had fewer bequests (Kim & Hwang, 2013;

Y. Kim, 2013; Park et al., 2014). Moreover, the inheritance allocation plan was influenced by a parent's gender and the number of children (Hwang & Kim, 2014; Kim & Hwang, 2013; Kang, 2012). Some parents were willing to bequeath more assets to a child who had cared for them. Lee (2015) carried out in-depth interviews with children who had inherited after their parents' deaths and reported that death-related characteristics such as sudden death and the amount of an inheritance also affected decisions regarding the disposition of bequests. Therefore, this study also included these characteristics as control variables in this analysis model.

Previous studies have also revealed that the socio-demographic characteristics of children, as well as those of parents and the death characteristics of parents, were closely related to inheritance, and the effects of the characteristics of parents and children on inheritance varied even within families (Kang, 2012; Park et al., 2014). Lee (2015) reported, using qualitative research methods, that parents made decisions regarding inheritance allocation taking into consideration how well they had educated their young children, whether a child was employed and able to make a living by himself or herself, and whether they themselves had children, in addition to factors such as birth order, gender, and the child's contribution to parents' care at the end of their lives. Nam et al. (2015) analyzed the proportion of bequest allocations by birth order, gender, age, sibling composition, and caregiving contribution by analyzing 17 juridical decisions on the legacy of deceased parents. However, it is difficult for studies based on a qualitative analysis of in-depth interview data or an analysis of juridical decisions to guarantee representativeness. It is also hard to find quantitative studies analyzing inheritance behaviors that take the individual characteristics of children into consideration. The study by Erixson and Ohlsson (2018) conducted in Sweden is the only available study whose model analyzed actual inheritance behaviors by including all the characteristics of all the children in a family. This study statistically analyzed the representative administrative data for Sweden, and reported that an equal allocation of bequests occurred more commonly when children were well educated, when someone was the youngest child, and when someone had a grandchild (Erixson & Ohlsson, 2018). However, daughters received more or larger bequests than sons, with a youngest daughter with a child particularly inheriting more assets than other siblings (Erixson & Ohlsson, 2018). By contrast, sons received more and larger bequests than daughters in India and China (Bhalotra et al., 2018; Deininger, Goyal, & Nagarajan, 2013; Jiang et al., 2015). A quantitative study in China also showed that education, age, and marital status were significantly related to the

inheritance possibility projection (Jiang et al., 2015). In summary, the results of previous studies conducted in many countries varied according to the socio-cultural context, and no quantitative study on inheritance behavior has been carried out in South Korea. Therefore, we believe that it is necessary to statistically analyze how inheritance behaviors are affected by the characteristics of children in the South Korean socio-cultural context.

Current Study

We try various innovations to take a leap forward from these previous studies. First, most researchers interested in inheritance discussed, argued about, or insisted on the need for an improvement in the law or system (Nam et al., 2015). Moreover, even when they performed a survey, they collected data only on living people (Kim & Hwang, 2013; Park et al., 2014), and little is known about actual inheritance decisions and behaviors after a parent's death. In order to examine inheritance allocation behavior, we utilized repeated tracking measurements of a representative selection of deceased South Koreans who died in middle or old age, including information regarding them from when they were alive, and information obtained after their death from those close to them, as well as inheritance allocation measurements (Erixson & Ohlsson, 2018; Lee, 2015).

Second, although previous studies conducting surveys on either parents or children or analyzing parent-child pair structure data quantitatively mainly used the absolute inheritance amount as a dependent variable (Erixson & Ohlsson, 2018; Kim et al., 2012; C. Park, 2014), it is not an appropriate variable for identifying relative allocations; inheritance amount and inheritance allocation proportion are indices with different qualitative characteristics. This is because the inheritance amount is proportional to the parents' absolute asset level, but this asset level is irrelevant when assessing the inheritance allocation proportion. In other words, inheritance allocation proportion is far more appropriate as an indicator for analyzing resource allocation in a family than the inheritance amount. Therefore, this study controlled the amount of inheritance and used inheritance allocation proportion measurements as a dependent variable.

Third, since the proportion of one child's inheritance affects the values of the other siblings, it is necessary to consider this interconnectivity while collecting information on all the siblings and analyzing it (Erixson & Ohlsson, 2018; Girardin et al., 2018; Jiang et al., 2015; Lee, 2015). The most reasonable statistical method to overcome this problem is a multi-level analysis that consists of

parents—all children as a multi-level structure (Chang & Luo, 2015; Erixson & Ohlsson, 2018; Jiang et al., 2015; Lee, 2015). In order to take a multi-level structure that interconnects all siblings into account, a multi-level analysis using the % inheritance for each child and taking the relationship between the children in a family into consideration was conducted.

Lastly, although the inheritance allocation proportion is a value that can only be measured after death, the study should use independent variables and control variables relating to values before death and close to the time of death, because the contribution to caregiving for parents before their death, the individual characteristics of parents and children, and the characteristics associated with a death can affect inheritance allocation (Caputo, 2005; C. Park, 2014). In this respect, inheritance allocation proportions and the characteristics related to parents' deaths were collected from a survey that interviewed individuals close to the deceased following their death and information regarding other explanatory variables was obtained from the last survey participated in by a parent before death.

Method

Subject and Data

The subjects of this study were 1,587 middle or elderly Koreans (level 2) who had died while at least one of their children was alive, and all their children (6,054 people). This study used KLoSA, which contains inheritance allocation information from after death of South Korean middle or elderly parents and their children. KLoSA provides longitudinal data from the first wave in 2006 to the sixth wave in 2016. The first wave targeted middle-aged and elderly people (≥ 45 years old) representative of the South Korean population and living in local communities as of 2006. The KLoSA data were collected by professionally trained investigators who visited each subject at home. They gathered each subject's personal information as well as information on the gender, age, education, marriage, and employment status of all their children. If a subject had passed away since the previous survey, they also investigated the end of the subject's life, the process leading up to their death, and post-death processes (e.g., funeral and inheritance allocation) by questioning those close to them, such as a spouse, child, relative, or neighbor. As a consequence, the KLoSA data are representative and highly reliable. It is also the only available data in South Korea that contain the necessary details (the death, inheritance, and socio-demographic characteristics of

deceased parents and their children) to answer our research question.

One thousand, six hundred fifty-eight subjects who participated in the first wave of KLoSA died within 10 years of it, meaning that someone close to them answered in one of the subsequent surveys on behalf of the deceased person: second wave = 187 subjects, third wave = 309 subjects, fourth wave = 327 subjects, fifth wave = 438 subjects, and sixth wave = 397 subjects. To maximize the sample size, this study combined all the available data and created a single dataset. This study excluded 60 subjects who did not have a living child at the time of their death because the objective of this study was to identify the inheritance allocation proportions of the children. When the deceased had a child, the parents became level 2 and the children became level 1, which is a multi-level structure. Inheritance allocation proportion, a dependent variable, is closely connected to the characteristics of level 1, so that it was transformed into a multi-level-structured dataset (1,598 parents–6,082 children), which treats each child as an observation case. However, 11 parents–28 children had missing values. Since this represented less than 1% (parents = 0.7% and children = 0.5%) and the effects on the statistical results were negligible, they were excluded from the analysis (Listwise deletion). The final target subjects of this study were 1,587 deceased parents (level 2) and their 6,054 children (level 1).

Measurement

Dependent Variables

Inheritance allocation proportion was used as a dependent variable, and it was calculated according to the proportion received by each child (Generation 2: G2) from his or her deceased parent as an heir among the total bequests. If a KLoSA participant died, the process of his or her death (e.g., caregiver before death, age at death, and bequests) was investigated in the next wave by asking questions of someone close to the deceased. This person also reported what percentage of the bequest was allocated to each inheritor. KLoSA calculates the percentage of an inheritance by separating the heirs into spouse, each child, grandchildren, relatives, social contribution, and other beneficiaries. If a deceased parent leaves no assets, the inheritance allocation proportion of all children is equal to 0. If a deceased parent leaves assets, the sum of all beneficiaries' inheritance allocation proportion is 100%, and the inheritance allocation proportion of each child can range from 0% to 100%.

Independent Variables: Birth Order, Gender, and Caregiver before Death

This study combined birth order and gender and used it as an independent variable in order to examine the effects of the traditional patriarchal system and gender norms on inheritance allocation proportion. The birth order and gender of a child is a categorical variable that has four classes (eldest daughter, eldest son, other daughters, and other sons). It was converted as a dummy variable, and the eldest daughter was used as a reference group. In order to estimate the effect of pre-death caregiving contribution on inheritance allocation, this study divided caregivers into primary caregivers and secondary caregivers and used them as independent variables. The primary caregivers were defined as children who were primary caregivers at one month before the parent's death and they were coded as 1 (=yes), while non-primary caregivers were coded as 0 (=no). Similarly, secondary caregivers were coded as 1 or 0 depending on whether they were secondary caregivers at one month before the parent's death.

Control Variables

A number of previous studies (Bae, 2008; Hwang & Kim, 2014; Jiang et al., 2015; Kim et al., 2012; C. Park, 2014) reported that characteristics related to the parents' deaths and the socio-demographic characteristics of their children affected inheritance. In order to estimate the effects of independent variables after considering the effects of them, this study used gender, education, age at death, marital status at the time of death, the number of children (G2), the extent to which the death was expected, and the total amount of a deceased parent's bequests (Generation 1: G1), whether a single child or a child with at least one sibling (G2), and the age, education, employment, marital status, and number of children (Generation 3: G3) of each child (G2) as control variables.

The gender of a deceased parent is coded as 1 for males and 0 for females. Parents' educational level is a dummy variable with four classes: uneducated or elementary school graduate or lower (a reference group), middle school graduate or lower, high school graduate or lower, and junior college graduate or higher. The age at death is a continuous variable at the time of a parent's death. The number of G2 siblings is equal to the number of G1's children. It is a continuous variable and it ranges from 1 to 10. The marital status of a parent is coded as 1 for married and 0 for bereaved, divorced, and separated. The extent to which a parent's death was expected was determined by asking "Did you expect the person to pass away?" and letting the respondent choose one of the following: "It was an unexpected and

sudden death (a reference group),” “It was somewhat expected because the deceased was ill, but the timing was unexpected,” and “Expected.” It was converted as a dummy variable in our analysis model. The total amount of the inheritance is a continuous value in units of ten thousand KRW. It is calculated by adding the value of houses, real estate other than houses, financial assets, life insurance, and other assets, and then subtracting debts. It is converted to a natural logarithm in our analysis model.

Among the characteristics of the child (G2), a single child was coded as 1 and a child with at least one sibling was coded as 0. The age of a child is a continuous age at the time of the parent’s death. The child’s education level is the response value to the last KLoSA survey before the death of the parent. Since the children tended to have a higher level of education on average, this was divided into five groups: middle school graduate or lower (a reference group), high school graduate or lower, junior college graduate or lower, four-year college graduate or lower, and graduate school or higher. It was converted into a dummy variable. A child’s employment status was coded as 1 if the child was employed and 0 if unemployed according to the last response before the parent’s death. The number of grandchildren (G3) ranged from 0 to 4.

Analysis Strategy

The multi-level tobit model (or the random effect tobit model) is the statistical analysis method used in this study. This study had to apply the multi-level model because the deceased parents, the upper level, had many children, the lower level, and the children in a family were interconnected. Therefore, it was possible to calculate an accurate estimate when the correlation within a group was considered (Erixson & Ohlsson, 2018; Jiang et al., 2015). Converting to a parent-child pair structure is not appropriate for analyzing the relationships between siblings because it does not reflect the relationship of children within a family (Erixson & Ohlsson, 2018; Kim et al., 2012). Thus, recent studies on inheritance (e.g., Erixson & Ohlsson 2018; Jiang et al., 2015; Kim et al., 2012) applied a multi-level model composed of one parent and all of his/her children. Currently, this analysis strategy is believed to be the best (Erixson & Ohlsson, 2018). This study applied the tobit model because of the characteristics of inheritance allocation proportion, a dependent variable. Inheritance allocation proportion does not have a normal distribution because there are many cases with a value of 0: when a child does not receive a bequest because the deceased parent has no assets or when a child does

not receive a bequest even if the deceased parent does have assets (Bae, 2008; Erixson & Ohlsson, 2018; C. Park, 2014). When there are many cases with left-censored dependent variables, the estimates from the Ordinary Least Square (OLS) estimation method are biased (C. Park, 2014). It is also inappropriate to exclude survey participants who have all the independent variable values from the analysis even if the subject did not receive an inheritance (Erixson & Ohlsson, 2018; C. Park, 2014). The tobit model is a statistical method that is appropriate for estimating by including all survey participants who have left-censored data and independent variables (Erixson & Ohlsson, 2018; C. Park, 2014). Some studies that used the amount of an inheritance as a dependent variable also applied the tobit model for these reasons (Bae, 2008; Erixson & Ohlsson, 2018; C. Park, 2014).

Results

Characteristics of Study Subjects

Table 1

Descriptive Statistics of the Deceased Parents and Their Children's Characteristics

Variable	Total sample (N = 6,054)		Samples having at least two children (N = 5,945)	
	Mean/%	SD	Mean/%	SD
Parent's characteristics				
Gender	100.0		100.0	
Father	50.5		50.7	
Mother	49.5		49.3	
Educational level	100.0		100.0	
Elementary school	73.9		73.5	
Middle school	11.1		11.0	
High school	10.4		10.2	
Junior college and over	5.2		5.2	
Age	80.0	9.6	80.1	9.6
Married	60.8		61.1	
The number of children	4.6	1.7	4.7	1.7
Expectation of death	100.0		100.0	
Unexpected sudden death	25.1		25.0	
Somewhat expected	40.1		40.2	
Expected	34.8		34.8	
Total amount of inheritance (Natural log)	0.6	2.3	0.6	2.3

Child's characteristics

Inheritance allocation (%) ($N = 6,054$)	3.0	13.3	2.9	12.9
Inheritance allocation (%) ($n = 488$)	36.7	31.1	35.4	30.1
Age	50.8	10.4	50.8	10.3
Educational level	100.0		100.0	
Middle school	26.7		26.9	
High school	42.2		42.3	
Junior college	4.6		4.6	
Four-year college	24.8		24.6	
Graduate school	1.7		1.7	
Employed	62.7		62.7	
Marital status	100.0		100.0	
Single	11.7		11.4	
Married	82.5		82.9	
Divorced, bereaved, or separated	5.8		5.8	
Do not have a sibling	1.8		0.0	
The number of children	1.8	1.0	1.8	1.0
The primary caregiver	4.6		4.4	
The secondary caregiver	3.0		2.9	
Birth order and gender	100.0		100.0	
The eldest son	14.7		13.9	
The eldest daughter	11.5		10.9	
The other sons	37.5		38.2	
The other daughters	36.3		37.0	

Table 1 shows the descriptive statistics of the parent-child characteristics. The characteristics of the parent (G1) are the same as the number of death cases since they are level two in the multi-level model. Moreover, all deceased parents are included in the descriptive statistics of Table 1 regardless of the presence of inheritance. Deceased parents were almost equally divided by gender (male 50.5%, female 49.5%). Their most common education level was elementary school graduation (73.9%), followed by middle school (11.1%), high school graduation (10.4%), and junior college and over (5.2%). The mean age of deceased parents was approximately 80 and 61% were married at the time of death. The number of G2 children averaged 4.6. A somewhat expected death was 40.1%, followed by expected (34.8%) and sudden death (25.1%). The mean inheritance value converted to a natural logarithm was 0.6 ($SD = 2.3$). The mean amount bequeathed by all deceased parents was 12.7 million KRW, and the median amount for those who bequeathed more than 10,000 KRW was over 140 million KRW.

Unlike parental characteristics, the children's characteristics are based on all instances since they are nested at level 1 in the multi-level model. The results showed that the mean inheritance allocation was 3% including all children ($N = 6,054$) whose inheritance allocation was 0%, but the average was 36.7% for children ($n = 488$) whose inheritance allocation was 1% or more. About 14.7% of children were the eldest son, 11.5% the eldest daughter, 37.5% the other sons, and 36.3% the other daughters. The primary caregiver children were 4.6% of all children, while the secondary caregiver children were 3.0% of all children. The proportion of primary and secondary caregivers was low because nurses and professional caregivers were primary caregivers when parents were hospitalized and spouses were commonly caregivers when they lived at home. The mean age of children was 50.8 years old (range: 6–85). In terms of children's education, 42.2% of them were high school graduates or lower, 26.7% were middle school graduates or lower, 24.8% were 4-year college graduates, 4.6% were junior college graduates, and 1.7% graduate school or higher. There were more employed (62.7%) than unemployed (36.3%) children and most were married (82.5%), followed by single (11.7%), and only 5.8% divorced, bereaved, or separated. Only 1.8% of children did not have a sibling. The mean number for G3 was 1.8 people. For reference, the descriptive statistics of those with siblings are presented on the right side of Table 1. Since only 1.8% of subjects did not have a sibling, the results of descriptive statistics were almost identical whether or not subjects without siblings were included.

Inheritance Allocation Proportion According to Birth Order, Gender, and Caregiving before the Death

Table 2 shows the results of the multi-level tobit model analysis. This study divided the model into Model 1 and Model 2 and analyzed them separately in order to examine whether the relationship between independent variables and inheritance allocation proportion varied by the presence of inheritance. Model 1 includes all deceased parent–children regardless of the presence of inheritance. On the other hand, Model 2 excludes all cases where there was no inheritance at all, showing cases where parents did make bequests but a child did not receive anything.

In Model 1, the number of deceased parent cases (level 2) was 1,587, and that of their children (level 1) was 6,054. Among the 6,054 observed cases, left-censored observations (0% inheritance allocation) amounted to 5,566 people, and uncensored observations with 1%–100% inheritance allocation were 488 people. The

Wald chi-square value was 363.1 ($DF = 25$) and significant at a 99.9% level. Moreover, the likelihood-ratio test value was 783.8 ($DF = 1$) and significant at a 99.9% level, implying that it was a statistically appropriate model. In Model 1, the eldest son had a 26.9 percentage points higher inheritance allocation proportion than the eldest daughter ($p < .001$), while the other daughters had 18.9 percentage points lower inheritance allocation proportion than the eldest daughter ($p < .01$). However, the inheritance allocation proportion of the other sons as compared to the eldest daughter was not significantly different. The inheritance allocation proportion of primary caregivers as compared to secondary caregivers was also not significantly different.

Table 2

The Results of the Multi-Level Tobit Model on Children's Inheritance Allocation Proportion According to Birth Order, Gender, and Caregiving Before the Death of Parents

Variable	Model 1		Model 2			
	B	SE	B	SE		
Parents' characteristics						
Male	56.2	***	10.1	-2.8	8.1	
Educational level (<i>Ref.</i> : Elementary school)						
Middle school	-38.2	**	13.2	-29.7	***	8.5
High school	-17.2		11.7	-13.1		8.0
Junior college and over	-33.5	*	15.6	-21.7	*	10.4
Age	-1.8	**	0.5	-0.5		0.5
Married (<i>Ref.</i> : No spouse)	-21.0	*	10.5	-35.8	***	8.6
The number of children	3.3		2.2	-0.4		1.9
Expectation of death (<i>Ref.</i> : Sudden death)						
Somewhat expected	-0.4		8.8	-2.4		6.6
Expected	-2.1		7.6	-10.4		6.9
Total amount of inheritance	9.8	***	0.9	0.3		0.7
Children's characteristics						
Age	1.1	*	0.5	1.1	**	0.4
Educational level (<i>Ref.</i> : Middle school)						
High school	12.4	*	5.0	9.1		5.6
Junior college	13.6		9.5	9.2		9.1
Four-year college	16.5	*	8.2	13.1		6.8
Graduate school	4.3		10.2	7.4		15.2
Employed (<i>Ref.</i> : Unemployed)	-7.1		4.6	-8.0		4.3

Marital status (<i>Ref.</i> : Single)					
Married	10.0	7.2	6.2	7.6	
Divorced, bereaved, or separated	17.7	12.8	16.6	10.9	
Do not have a sibling (<i>Ref.</i> : Have a sibling)	19.6	17.7	18.5	15.6	
Number of children	-0.9	2.1	-1.7	2.7	
The primary caregiver (<i>Ref.</i> : No)	29.6	21.1	45.5	24.3	
The secondary caregiver (<i>Ref.</i> : No)	11.2	22.0	2.7	16.7	
Birth order and gender (<i>Ref.</i> : The eldest daughter)					
The eldest son	26.9	***	7.0	31.5	***
The other sons	4.6		7.4	7.1	
The other daughters	-18.9	**	6.3	-17.4	**
Constant	-106.6	***	28.5	-22.6	26.6
<hr/>					
The number of observations / groups	6,054 / 1,587		1,692 / 457		
Left-censored / Uncensored observations	5,566 / 488		1,204 / 488		
Log likelihood	-3367.2		-3040.6		
Wald chi-square (<i>DF</i>)	363.1 (25)***		222.5 (25)***		
Likelihood-ratio test (<i>DF</i>)	783.8 (1)***		182.4 (1)***		

Note. *B* = Coefficient. *DF* = Degree of Freedom. *Ref.* = Reference. *SE* = Standard Error. **p* < .05. ***p* < .01. ****p* < .001.

In Model 2, the number of cases of deceased parent with inheritances (level 2) was 457 people, and the number of cases of associated children (level 1) was 1,692 people. The Wald chi-square value of Model 2 was 274.4 (*DF* = 25), significant at a 99.9% level. Moreover, the likelihood-ratio test value was 182.5 (*DF* = 1), also significant at a 99.9% level, indicating that it is a statistically appropriate model. Among independent variables, the eldest son had a 31.5 percentage points higher inheritance allocation than the eldest daughter (*p* < .001), which was approximately 5 percentage points higher than that of Model 1. Second, the other daughters had a 17.4 percentage points lower inheritance allocation than the eldest daughter (*p* < .01). As was the case with Model 1, in Model 2 the inheritance allocation proportion of the other sons as compared to the eldest daughter, and the inheritance allocation proportion for primary caregivers as compared to secondary caregivers were not significantly different.

Discussion

This study examined the inequality effects of the intersectionality of birth order

and gender on the inheritance allocation of deceased parents by applying a multi-level tobit model to the KLoSA data, which represents middle-aged and elderly individuals in South Korea. The most noteworthy results of the analysis are that the inheritance allocation proportion of the eldest son was 27–32 percentage points higher than that of the eldest daughter. In other words, even where they are the first born, gender effects make the female inheritance allocation proportion lower than that of males. Some scholars (Han & Yoon, 2004; Sung, 2006) in South Korea have argued that South Korea is transforming into a neo-matriarchal or bilateral society since the appearance of the daughter-preference phenomenon, newlyweds residing near the wife's parents' home, and wife's mothers increasingly taking care of grandchildren. Hwang and Kim (2014) also reported that gender equality-centered equal allocation had become the norm. However, the results of this study show that the eldest son-centered patriarchal decision-making system is still firmly in place in the relationship between middle-aged and elderly parents and ideas regarding inheritance.

Considering the results of this study indicate that the lower the educational level of the parents the greater the disparity in inheritance allocation proportion, this could be interpreted as showing that less educated people tend to maintain traditional ways of thinking and to favor the eldest son. In the future, as the level of education increases, the South Korean elderly may behave in a more gender-equal way and their actions will agree better with their stated beliefs. However, birth order and gender, characteristics assigned at birth, continue to affect life, even in the later stage of life, including the issue of inheritance.

The results of this study show that the second eldest and younger daughters suffer the most due to the intersectionality of birth order and gender. The other daughters receive an inheritance allocation proportion 17–19 percentage points less than the eldest daughter and 45–49 percentage points less than the eldest son. As shown, the second eldest and younger daughters receive few bequests when their parents pass away because of the primary oppressive mechanism (gender) and the secondary oppressive mechanism (birth order). In Western countries, it is the youngest daughter who tends to take care of her elderly parents. In South Korea, daughters also have a close emotional relationship with their parents, and the duty of caregiving is moving away from the eldest son (although it was actually carried out by the daughter-in-law) to daughters (Kim, Zarit, Fingerma, & Han, 2015). However, our results show that primary or secondary caregiver roles do not significantly alter the inheritance allocation proportion. In short, a cultural lag is occurring because gender inequality in the role distribution has been maintained,

caregiving has become the daughter's share, and the contribution system, which allows a caregiver to receive more of an inheritance, has not become established.

In South Korea, the social hierarchy may become increasingly consolidated as more elderly people possessing expensive real estate (e.g., houses) and assets die in the future. Until now, the gap between family members has been highlighted as a social issue in relation to inheritance by social class (Kim et al., 2012). Szydlak (2012) and Korom (2016), who analyzed European countries, highlighted the problematic fact that the wealth gap between those who inherited and those who did not was large, resulting in a consumption and savings gap. The results of our study's analysis further reveal that the inheritance gap due to gender and birth order could stratify the social classes of the next generation of a family. Therefore, it is necessary to expand the academic debate and seek policy alternatives so that we can resolve the issue of social stratification in the next generation arising from birth order in a family and gender by continuously observing this phenomenon.

Limitations and Future Directions

We would like to suggest directions for future studies based on the limitations of this study so this research can be advanced. First, this study could only use the data from five waves (KLoSA's death investigation 2nd–5th waves) and could not analyze temporal variation because the number of dead for each wave was small. However, the relationships between inheritance and traditional patriarchy, gender norms, and contributions as primary caregiver at the end of life could vary depending on the period. Therefore, future studies need to evaluate the changes in trends from the past to the present and project into the future by conducting a panel model analysis that can estimate the temporal effects accurately using more waves and data from target subjects.

Second, this study measured the contribution only by evaluating whether the subject was a primary or secondary caregiver one month prior to death and reported that this does not significantly affect inheritance allocation proportion. However, the level of contribution can be measured in various ways and over a longer term. In this context, future studies should subdivide and examine the effects of various factors such as resource exchange between parents and children, emotional exchange, support, and cohabitation. Although the coefficient of the primary caregiver was large (Table 2), it was not significantly different. This could be because of a large standard error, induced by the small proportion of cases (5%) where children acted as the parents' primary caregiver before their death. The

statistical analysis would be much more reliable if the number of KLoSA waves were increased and more cases of children acting as primary caregivers are added. Moreover, it is also possible that temporal variation may exist in this effect and the effect may have increased in recent years. Therefore, the effects of caregivers on the inheritance distribution will need to be analyzed in more detail in future studies after more KLoSA data have been accumulated.

The results of this study show that traditional patriarchal attitudes toward birth order and gender norms still play a major role in actual inheritance allocation behaviors despite the current law stipulating that this allocation should be based on the caregiving contribution at the end of life and regardless of birth order and gender. This study is meaningful in that it has raised the issues of eliminating the gender inequality that descends to the next generations at the end of life and the need to respect the value of caregiving.

References

- Bae, H. (2008). Amount of economic resources transfers to adult children among the middle aged and the elderly. *Consumer Policy and Education Review*, 4(4), 81–106. (In Korean)
- Bhalotra, S., Brulé, R., & Roy, S. (2018). Women's inheritance rights reform and the preference for sons in India. *Journal of Development Economics*. Advance online publication. doi:10.1016/j.jdeveco.2018.08.001
- Caputo, R. K. (2005). Inheritance and intergenerational transmission of parental care. *Marriage & Family Review*, 37(1–2), 107–127.
- Chang, Y. M., & Luo, Z. (2015). Endogenous division rules as a family constitution: Strategic altruistic transfers and sibling competition. *Journal of Population Economics*, 28(1), 173–194.
- Cho, S., Crenshaw, K. W., & McCall, L. (2013). Toward a field of intersectionality studies: Theory, applications, and praxis. *Signs: Journal of Women in Culture and Society*, 38(4), 785–810.
- Deininger, K., Goyal, A., & Nagarajan, H. (2013). Women's inheritance rights and intergenerational transmission of resources in India. *Journal of Human Resources*, 48(1), 114–141.
- Erixson, O., & Ohlsson, H. (2018). Estate division: Equal sharing, exchange motives, and Cinderella effects. *Journal of Population Economics*. Advance online publication.
- Girardin, M., Widmer, E. D., Connidis, I. A., Castrén, A. M., Gouveia, R., & Masotti, B. (2018). Ambivalence in later-life family networks: Beyond intergenerational dyads. *Journal of Marriage and Family*, 80(3), 768–784.
- Han, G., & Yoon, S. (2004). The bilateralization of the kinship relations in Korean families: Focused on the intergenerational exchange. *Korea Journal of Population Studies*, 27(2), 177–202. (In Korean)
- Hwang, S., & Kim, H. (2014). Analysis on the determinants of inheritors. *Korean Journal of Population Studies*, 37(1), 81–108. (In Korean)
- Jayachandran, S. (2015). The roots of gender inequality in developing countries. *Annual Review of Economics*, 7(1), 63–88.
- Jiang, Q., Li, X., & Feldman, M. W. (2015). Bequest motives of older people in rural China: From the perspective of intergenerational support. *European Journal of Ageing*, 12(2), 141–151.
- Kang, Y. (2012). Inheritance types of wealth and related factors among the elderly living independently. *Korean Journal of Community Living Science*, 23(2), 145–162. (In Korean)

- Kelly, S., & Harding, A. (2006). Don't rely on the old folks' money: Inheritance patterns in Australia. *Elder Law Review*, 4(5), 1–14.
- Kim, H. (2008). Inheritance and social support from children among Korean elderly. *Journal of the Korean Gerontological Society*, 28(2), 309–323. (In Korean)
- Kim, H., Hwang, S., & Kim, Y. (2012). *Changing inheritance behaviors due to low fertility and population aging and policy recommendations*. Sejong, Korea: Korea Institute for Health and Social Affairs. (In Korean)
- Kim, H., & Hwang, S. (2013). The effects of co-residence with adult children on bequest preferences: Longitudinal analyses of gender-specific effects. *Health and Social Welfare Review*, 33(4), 72–104. (In Korean)
- Kim, K., Eggebeen, D. J., Zarit, S. H., Birditt, K. S., & Fingerma, K. L. (2012). Agreement between aging parent's bequest intention and middle-aged child's inheritance expectation. *The Gerontologist*, 53(6), 1020–1031.
- Kim, K., Zarit, S. H., Fingerma, K. L., & Han, G. (2015). Intergenerational exchanges of middle-aged adults with their parents and parents-in-law in Korea. *Journal of Marriage and Family*, 77(3), 791–805.
- Kim, S., Choi, E., & Cha, K. (2008). A probabilistic study of the sex ratio at birth related to son preference. *Journal for History of Mathematics*, 21(4), 79–86. (In Korean)
- Kim, Y. (2013). The heterogeneity of one-person households and their characteristics of spatial distribution. *Housing Studies Review*, 21(3), 79–99. (In Korean)
- Korom, P. (2016). *Inherited advantage: The importance of inheritance for private wealth accumulation in Europe*. Retrieved from file:///C:/Users/byeby/Downloads/mpifg_dp16_11%20(1).pdf
- Lambek, M. (2011). Kinship as gift and theft: Acts of succession in Mayotte and Israel. *American Ethnologist*, 38(1), 2–16.
- Lee, J. (2015). Inheritance in Korean families: Experiences of adult children heirs and changes in family relationships. *Family and Culture*, 29(1), 225–264. (In Korean)
- Light, A., & McGarry, K. (2004). Why parents play favorites: Explanations for unequal bequests. *American Economic Review*, 94(5), 1669–1681.
- Nam, B., Lee, J., & Choi, S. (2015). Compensating for spouse's and child's contribution to assets and caregiving in inheritance cases: An analysis of precedents on “contribution-based portion”. *Family and Culture*, 27(2), 212–261. (In Korean)
- Nauck, B. (2010). Intergenerational relationships and female inheritance expectations: Comparative results from eight societies in Asia, Europe, and North America. *Journal of Cross-Cultural Psychology*, 41(5–6), 690–705.
- Park, C. (2014). Why do children transfer to their parents? Evidence from South

- Korea. *Review of Economics of the Household*, 12(3), 461–485.
- Park, M., Whang, D., Jung, M., & Lee, H. (2014). The attitudes toward supporting old parents and inheritance among university students. *Journal of Human Ecology*, 18(1), 185–197. (In Korean)
- Stum, M. S. (1999). “I Just Want to Be Fair”: Interpersonal justice in intergenerational transfers of non-titled property. *Family Relations*, 48(2), 159–166.
- Sung, M. (2006). Bilateralization phenomena in Korean families: A qualitative approach. *Journal of Korean Home Management Association*, 24(3), 59–72. (In Korean)
- Szydlik, M. (2012). Generations: Connections across the life course. *Advances in Life Course Research*, 17(3), 100–111.
- Zagorsky, J. L. (2013). Do people save or spend their inheritances? Understanding what happens to inherited wealth. *Journal of Family and Economic Issues*, 34(1), 64–76.

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