

Factors affecting parental choice of childcare service for pre-school age children

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Abstract

The goal of this research is to identify whether women's economic participation and types of employment affect their choice of childcare provider for pre-school aged children. Childcare options were classified into at-home care, preschool, daycare, and private educational institutions. A multinomial logit model was used to analyze the factors influencing each choice. The third-wave data of the Korean Longitudinal Panel Survey of Women and Family (KLoWF), which includes both women's employment variables and household childcare variables, was used. A total of 1,538 women with pre-school age children and the 543 among them who were participating in economic activities were subject to analysis.

The findings of this research are as follows. While working mothers exhibited a greater propensity to use daycare facilities than did non-working mothers, when only working mothers were examined their type of employment and profession proved irrelevant to their choice between preschool and daycare. In terms of choice between daycare, at-home care, and private educational institution, excluding preschool as an option, certain professions and most employment types strongly preferred daycare. In conclusion, it is considered that while daycare-oriented policies are highly desirable in assisting working women with their childcare, the impact of both the specific type of employment and profession is negligible in working mothers' choices between preschool and daycare. This suggests that child-related variables play a greater role in this choice than do women's employment variables.

Keywords: Women's economic participation, Types of employment, Childcare choice, Pre-school aged children, KLoWF

1. Introduction

With childcare policy having been adopted as a major national policy, a diverse range of institutions including daycare facilities are currently providing care services to pre-school aged children. In response, there has been heated debate over governmental childcare policies argued from a range of perspectives including child development and parental support. A plethora of research on the effectiveness and efficiency of childcare policy and parents' choice of childcare service, which takes up a significant portion of government budget, has also been an important component of such debate.

As a result of the recent emphasis on the public nature of childcare, the South Korean government adopted in 2012 a policy to provide free childcare service to all households with children of 0-2 years of age, regardless of their income level. In addition, the at-home childcare subsidy for children aged under three years old was expanded to cover the lower 70 percent of households in terms of household income. This has triggered heated discussion over the necessity of "free" childcare and the use of childcare services. Since the launch of this policy, in fact, the enrollment in childcare facilities by pre-school age children has soared, posing a number of challenges for childcare service providers. The rate of use of childcare facilities by infants in South Korea, where the employment rate of women with infants totals approximately 30 percent, is similar to that in some Nordic countries where the employment rate of women with infants reaches 70-80 percent (Jang Myeong-lim et al., 2012).

In order to support working households, from which the actual demand stems, the government deducts 25 percent of the household income for working parents when assessing the amount of recognized income, prioritizes childcare services for those demonstrating greater need such as infants and children with disabilities, and gives precedence to the children of working parents for admission to public childcare facilities. Due to the sudden spike in the demand for childcare services, however, concerns have been raised in several regards, including the efficiency of the methods of support for teachers providing care for extended periods of time, the need to review the actual necessity of childcare services based on the individual situations of respective households, and the possibility of those in greatest need of services failing to receive the benefit of the policy given that prioritized admission to childcare facilities for the children of working parents is only applied to public childcare service providers. One of the causes underlying these problems is found in service provider-oriented childcare policy, which has expanded the nonessential use of childcare service by infants.

Against the backdrop of this rapidly changing policy environment, it appears essential to examine the factors that affect parents' choice of childcare service in order to help establish

appropriate long-term policy direction. Given that both of the primary goals of childcare service, support for child development and childcare support for working households, are of critical importance, it is necessary to review the impact of women's employment on parental choice of childcare service. In this regard, this study aims to investigate how women's employment variables are related to their choice of childcare service and identify the implications for the governmental childcare facility support policy designed to assist women's employment and work-life balance.

2. Previous literature and research hypotheses

A great number of studies have been undertaken in relation to choice of childcare facility. Kim Mi-hwa et al. (2004) and Noh Seong-hyang (2010) analyzed overall choice of childcare service, including facility care and at-home care. Park Seon-uk (2011) concluded that private daycares were prevalent in the use of childcare services, followed by private preschools. A significant number of children were provided care by grandparents, and when more than two types of service were used, the preferred option was facility service complemented by care from grandparents. Unlike the government's facility care-oriented policy, the results of a multinomial logit analysis showed a parental propensity toward at-home care. Women's employment was closely related to the choice of care service and costs. Choi Sang-seol et al. (2012) argued in their study reviewing all types of childcare services that working mothers with infants preferred at-home care to facility care and many were taking care of their child themselves. Bae Seong-hee (2011) found working mothers' employment status to be an important factor in the selection of childcare facility, with women in regular positions less inclined to opt for daycares. Kim Ji-gyeong (2004) and Lee Seon-ae (2009) also concluded that women's economic participation had a significant impact on the choice of childcare services.

Ahn Jae-jin et al. (2010) considered as key variables not only women's employment status, but also the duration of their working hours. Long working hours are well-known to pose a major obstacle to work-life balance. The reason the use of extended-hour care services such as 24-hour care has not risen significantly despite the increase in the availability of such service is because childcare service does not simply exist to provide convenience to parents, but is greatly related to the conditions of the child in question. The results of Ahn's multinomial logit analysis verify that the length of women's working hours, rather than simply whether or not they are employed, is more important in the choice of childcare service.

Meanwhile, little research has taken into account the details of women's labor conditions. Childcare is known to be the most significant cause of interference in working women's efforts

to balance their work and family lives, as well as of career disruption (Kim Jong-suk et al., 2011). A great number of workplaces have yet to install work practices conducive to work-life balance and the government's recent introduction of a system of flexible working arrangements has failed to demonstrably increase flexibility in working hours and locations.

Such conditions in the labor market are forcing many women to choose between resignation or finding a job that enables them to strike a balance between work and home lives. Women's type of employment is closely related to their labor method, which is exemplified by the fact that women with young children who require intensive care turn to atypical types of employment more adaptable in terms of working hours and location, such as commissioned work (Kim Jong-suk et al., 2005). South Korea's labor market is severely segregated by gender, and type and area of employment for women are differently determined by profession. Therefore, the type of profession in which women with pre-school age children are engaged is closely linked to the choice of childcare facility.

For example, professionals and office workers tend to be employed on a full-time basis, while women in the service and sales sectors tend to work in a time slot differing from that of office workers. Based on the unique labor conditions of different professions, women with childcare responsibilities make employment choices based on their needs. In other words, specific conditions of paid labor such as the employment type and profession of working women have close associations with the length of their work hours and work-home balance.

Not surprisingly, those in their 30s make up the greatest proportion of the group of parents with pre-school age children. The majority of those in their 30s are college or university educated. In terms of employment status, the percentage of regular workers is significantly high among men, while that of non-working is very elevated among women. Hence, when a woman works it is likely that both she and her husband work and their choice of childcare service can differ from those made in households featuring a full-time homemaker. A significant number of workers aged under 30 are professionals and office workers. In addition, their type of labor is highly standardized and considered an attractive job.

The results of the analysis of the KLoWF data used in this study also demonstrate that the employment type by gender of working couples with pre-school age children exhibits a different pattern from the distribution of employment type observed in the Economically Active Population Survey. The former has a greater percentage of reasonably attractive jobs.

Table 1. Employment type of husband and wife

	2009	
	Husband	Wife
Employed by others or a company in a paid job	74.2	71.9
Self-employed	24.5	16.2
Working without pay for a family business for 18 or more hours per week	0.4	5.5
Working without pay for a family business for less than 18 hours per week	0	1.5
Independent entrepreneur with commissioned contracts with a company	0.4	4.9
Don't know/No response	0.6	0
Total	100.0	100.0

Taking into consideration the results of previous studies and the recent policy background, the hypotheses of this research were established as the following:

Hypothesis 1: Whether or not a woman is economically active will have a significant difference in a family's choice of childcare service. Younger parents with full-time jobs will prefer daycares.

Hypothesis 2: The employment type and profession of working women will affect the choice of childcare service. Professionals and office workers will prefer daycares and the choice of non-salaried workers differ from that of salaried workers.

3. Data and model

This research made use of the third wave data of the KLoWF. One of the advantages of this data lies in the sheer size of the sample that covers a wide range of women. Also, it is highly appropriate for research that seeks to analyze both household and employment details, as it contains specific questions related to employment in households and of women. The subjects of this research were 1,538 women with pre-school age children eligible for childcare services.

Given that choice of childcare service is a categorized variable, a multinomial logit model was selected to investigate the categorized variables of dependent variables. The multinomial logit model was induced from the following equation:

$$\ln[p(\text{category}_i)/1 - p(\text{category}_j)] = \beta_{i0} + \beta_{i1}X_1 + \dots + \beta_{ip}X_p$$

X refers to independent variables and β to coefficients. The dependent variable term on the left side refers to natural log values of the odds that an event may occur. While the possibility of an event is represented by either 0 or 1 in a binary logit model, a base category is determined and compared with other categories in a multinomial logit model.

Dependent variables are the results of the categorization of childcare services: 1 is preschool; 2 daycare and workplace childcare service; 3 private educational institution; and 4 at-home care or other. When more than two types of childcare service were used, the one with longer hours was applied.

Table 2. Type of major childcare services used

	0	1	2	3	
	At-home care, other	Preschool	Daycare + workplace childcare service	Private educational institution	Total
Number	237	527	603	171	1538
Percentage	15.62	34.26	39.20	11.12	100

Of all children examined, 34.26% attended preschools as their major childcare service, 39.20% daycares or workplace childcare services, and 11.12% private educational institutions. 15.62% responded at-home care or other.

A basic analysis of independent variables resulted in the following. The average age of women with pre-school age children was 36.47 years old, and they were educated for 13.34 years, equivalent to a college education on average. The average age of their spouses was two years older at 38.45 years. The proportion of working mothers was low at 33.2%, and that of women engaged in seeking employment was also minimal at 2.14%. The average annual household income was 37.876 million won.

Table 3. Independent variables: total women

Variable		Mean	Std. Dev.
edu	Number of years of education	13.34593	2.706565
age	Age	36.4707	7.494132
age2	Age squared	1386.238	670.631
age_men	Age of spouse	38.45596	7.531364
work_1	Employed	0.332031	0.471096
work_2	Unemployed	0.021484	0.14504
Hincome	Annual household income (10,000 won)	3787.6	1885.544

The findings of a basic analysis of independent variables using the sample of economically active women are as follows. The average age of working women with pre-school age children was 37.06 years old and they were educated for 13.38 years on average, which is considered equivalent to college education. There was no significant difference between working and non-working mothers in terms of age and level of educational attainment. Their spouses were 39.18 years of age on average, about two years older. The proportion of the employed excluding the unemployed was approximately 98%. As expected, the majority of working parents and their annual household income was comparatively high with 42.298 million won on average.

Regarding profession, none were high-level managers, with 34.9% professionals, 17.9% office workers, 10.8% service personnel, 16.4% sales personnel, 6.4% experienced workers in agriculture, forestry, and fishery, 2.9% technicians, 1.9% machinery workers, and 8.1% manual workers. A majority (65.8%) were salaried workers, followed by self-employed and employers with 17.9%, and unpaid family-business workers with 10.4%.

Table 4. Independent variables: economically active women

Variable		Mean	Std. Dev.
edu	Number of years of education	13.3861	2.956415
age	Age	37.06178	7.882358
age2	Age squared	1435.587	710.456
age_men	Age of spouse	39.1898	8.363098
work_1	Employed	.984556	.1234298
Hincome	Annual household income (10,000 won)	4229.797	2072.934
occ_2	Professionals	.3494208	.477248
occ_3	Office workers	.1795367	.3841721
occ_4	Service personnel	.1081081	.3108171
occ_5	Sales personnel	.1640927	.3707176
occ_6	Experienced workers in agriculture, forestry, and fishery	.0637066	.2444656
occ_7	Technicians	.0289575	.1678493
occ_8	Machinery workers	.019305	.1377278
occ_9	Manual workers	.0810811	.2732234
job_1	Salaried workers	.6583012	.4747376
job_2	Self-employed/employers	.1795367	.3841721
job_3	Unpaid family-business workers	.1042471	.3058762

4. Findings

The following are the results of an analysis of the entire sample using a multinomial logit model in relation to factors affecting the choice of childcare service.

First, all factors including number of years of education, age, spouse's age, whether employed or not, and household income turned out to have a significant impact on parents' decisions for at-home care. The higher the mother's educational attainment, the greater was her likelihood of taking care of a child at home. Also, older mothers were less likely to choose at-home care, which is due to the correlation between the mother's age and the child's age. As the husband's age increased it was more likely that the child used a childcare service. The likelihood of at-home care among working mothers was extremely low. The probability of at-home care among women in the midst of seeking a job was lower compared to working mothers, but not at a statistically significant level. When all the other factors were controlled, household income increased the probability of selecting at-home care or other.

Second, the choice of preschool, which is a major alternative to daycare, was investigated. Using daycare as a basis, the factors affecting the likelihood of opting for preschool included the age of the woman and her spouse, whether or not she is employed, and household income. While the level of educational attainment did not show a significant influence, older mothers and fathers demonstrated a significantly greater chance of electing for preschool over daycare. This occurs because it is likelier for older couples' child to prefer preschool due to the close link between the age of the child and of the parents. In the case of working mothers, however, the chance of choosing preschool over daycare was significantly lower. This suggests that a policy to support working mothers might best give priority to daycares over preschools. Those with greater household income were likelier to send their child to preschool, and this coefficient value was higher compared to those who chose at-home care than compared to those selecting daycare.

Third, the probability of opting for private educational institutions (e.g. taekwondo schools, piano schools, English-immersion preschools) was analyzed. When viewed with daycare as a basis, there were no significant factors that affected parents' selection of private educational institutions as a major childcare service. Although older mothers and younger fathers tended to prefer private teaching institutions over daycares, no statistical significance was observed in both cases.

In summary, it was confirmed by the parents' age variable that as a child is younger the order of preference for childcare service is at-home care, daycare, and preschool. While more affluent

households were likelier to select other services over daycares, working mothers still showed a significantly strong preference toward daycare. This demonstrates that daycare is an important option for working mothers when selecting a childcare service for their child.

Table 5. Choice of childcare service (total women)

	Variable	Coefficient	Standard error	z	P>z
At-home care/ basis: daycare	edu	.1305392	.0447618	2.92	0.004
	age	-.3153587	.1248991	-2.52	0.012
	age2	.0037697	.0017266	2.18	0.029
	age_men	-.0408153	.024503	-1.67	0.096
	work_1	-.8853017	.1923806	-4.6	0
	work_2	-15.83984	1071.775	-0.01	0.988
	Hincome	.0000535	.0000516	1.04	0.3
	_cons	5.140149	2.303897	2.23	0.026
Preschool/ basis: daycare	edu	.039791	.0350118	1.14	0.256
	age	.5747182	.1376886	4.17	0
	age2	-.0066827	.001856	-3.6	0
	age_men	-.0032468	.0211511	-0.15	0.878
	work_1	-.3521115	.1400075	-2.51	0.012
	work_2	.0914921	.3884679	0.24	0.814
	Hincome	.0001404	.0000389	3.61	0
	_cons	-12.93265	2.599185	-4.98	0
Private educational institution/ basis: daycare	edu	.0931411	.0743199	1.25	0.21
	age	.6755862	.5246503	1.29	0.198
	age2	-.0095025	.0076074	-1.25	0.212
	age_men	-.0566014	.0352993	-1.6	0.109
	work_1	-.4745641	.3009861	-1.58	0.115
	work_2	-15.92141	2063.375	-0.01	0.994
	Hincome	.000039	.0000845	0.46	0.645
	_cons	-13.21958	9.011231	-1.47	0.142

Next, a similar analysis was conducted with 543 economically active women. First, factors that affect the choice of at-home care or other were investigated with daycare as a basis. In an analysis excluding employment-related variables, no statistically significant variables other than whether employed or not and household income were observed. At a statistically significant level, working mothers did not select at-home care. In addition, as the level of household income

increased, the likelihood of pursuing at-home care rose as well. When examined in terms of profession and employment type, the father's age, sales personnel, and salaried workers demonstrated significant results. Both older fathers and sales personnel compared to manual workers were clear predictors of a lower chance for at-home care. Salaried workers showed a significantly lower preference for at-home care compared to other types of independent labor. Even if the subjects were employed, other professions were not significant factors in the decision to pursue at-home care. Non-salaried workers including the self-employed, employers, and unpaid family-business workers did not exhibit any significance.

**Table 6. Choice of childcare service among economically active women 1:
at-home care/basis: daycare**

	Variable	Coefficient	Standard error	z	P>z
At-home care/ basis: daycare	edu	.0882551	.0915871	0.96	0.335
	age	.1830273	.615402	0.3	0.766
	age2	-.0043528	.0092709	-0.47	0.639
	age_men	-.0609566	.0534395	-1.14	0.254
	work_1	-1.923049	1.057239	-1.82	0.069
	Hincome	.000175	.0000914	1.92	0.055
	_cons	-.5213963	10.19079	-0.05	0.959
At-home care/ basis: daycare	edu	.1340645	.1093837	1.23	0.22
	age	.3136605	.6472105	0.48	0.628
	age2	-.0061157	.0096586	-0.63	0.527
	age_men	-.1332645	.060787	-2.19	0.028
	work_1	.0248538	1.358258	0.02	0.985
	Hincome	.0002042	.0000972	2.1	0.036
	occ_2	-.148555	.7743274	-0.19	0.848
	occ_3	.0035523	.7631065	0	0.996
	occ_4	.0535593	.8681731	0.06	0.951
	occ_5	-2.829572	1.362827	-2.08	0.038
	occ_6	1.450233	1.163093	1.25	0.212
	occ_7	-12.26775	452.8879	-0.03	0.978
	occ_8	.4937962	1.311883	0.38	0.707
	job_1	-2.122924	.7261796	-2.92	0.003
	job_2	-1.044808	.7561485	-1.38	0.167
job_3	-.1338162	1.141069	-0.12	0.907	
_cons	-1.135955	10.6908	-0.11	0.915	

Second, factors affecting the choice of preschool over daycare were examined. When it comes to working women, with the exclusion of the woman's employment variable, the woman's age, her spouse's age, and household income were all significantly influential. While the chance of electing preschool increased as the woman's age rose and the spouse's age went down, the woman's age was a statistically significant factor. Household income was proportionately correlated to the preference for preschool over daycare. In terms of the details of employment, both the mother's and father's age were significantly influential but none of the employment variables were. The type of profession and employment status of working woman did not appear to have a considerable impact on the choice between daycare and preschool.

**Table 7. Choice of childcare service among economically active women 2:
preschool/basis: daycare**

	Variable	Coefficient	Standard error	z	P>z
Preschool/ basis: daycare	edu	.0049675	.0572674	0.09	0.931
	age	.4660581	.1839606	2.53	0.011
	age2	-.0046924	.0024125	-1.95	0.052
	age_men	-.0642231	.0358033	-1.79	0.073
	work_1	.7038426	1.201918	0.59	0.558
	Hincome	.0001215	.0000595	2.04	0.041
	_cons	-9.668993	3.776236	-2.56	0.01
Preschool/ basis: daycare	edu	.0134925	.0688479	0.2	0.845
	age	.4451319	.1942377	2.29	0.022
	age2	-.0045431	.0025567	-1.78	0.076
	age_men	-.0694417	.0378335	-1.84	0.066
	work_1	.8034064	1.280695	0.63	0.53
	Hincome	.000133	.0000615	2.16	0.031
	occ_2	.0820986	.4865046	0.17	0.866
	occ_3	-.2852889	.4991525	-0.57	0.568
	occ_4	.114341	.5410384	0.21	0.833
	occ_5	-.0482497	.4942285	-0.1	0.922
	occ_6	.2816451	.8260834	0.34	0.733
	occ_7	.8591613	.7121337	1.21	0.228
	occ_8	.384738	.8259366	0.47	0.641
	job_1	-.1980204	.5330306	-0.37	0.71
	job_2	-.037407	.5614694	-0.07	0.947
job_3	.4251886	.6817403	0.62	0.533	
_cons	-9.093615	3.916734	-2.32	0.02	

Third, factors affecting the choice of private educational institution over daycare were analyzed. The most important factor impacting working women in their decisions to send their child to private educational institutions rather than daycare was household income. The higher the household income, the significantly greater was the probability of choosing private teaching institution over daycare by a large margin. Household income remained highly important even when type of profession and employment status were considered. Also, type of employment was influential in choosing private educational institutions. Compared to independent workers such as commission-based workers, salaried workers preferred daycare to private teaching institution highly significantly. Non-salaried workers such as the self-employed, employers, and unpaid family-business workers were also significantly less inclined toward private teaching institution compared to daycare. Therefore, it can be concluded that working women, regardless of the type of employment and profession, prefer daycare to private educational institutions.

Table 8. Choice of childcare service among economically active women 3: private educational institution/basis: daycare

	Variable	Coefficient	Standard error	z	P>z
Preschool/ basis: daycare	edu	-.1231216	.0963255	-1.28	0.201
	age	-.0085332	.2082809	-0.04	0.967
	age2	.0009015	.0023469	0.38	0.701
	age_men	.0612396	.0599197	1.02	0.307
	work_1	-.1005934	1.392272	-0.07	0.942
	Hincome	.0003774	.0000984	3.83	0
	_cons	-5.355074	4.977426	-1.08	0.282
Preschool/ basis: daycare	edu	-.1221476	.1138997	-1.07	0.284
	age	-.0255195	.2255579	-0.11	0.91
	age2	.0012094	.0025563	0.47	0.636
	age_men	.0393278	.0645834	0.61	0.543
	work_1	.9753914	1.352647	0.72	0.471
	Hincome	.0003948	.000105	3.76	0
	occ_2	-.2134562	.8544676	-0.25	0.803
	occ_3	-.8854224	.8818211	-1	0.315
	occ_4	-.7252451	.9490338	-0.76	0.445
	occ_5	-.7825463	.8675136	-0.9	0.367
	occ_6	-1.439779	1.033179	-1.39	0.163
	occ_7	-.5788884	1.230107	-0.47	0.638
occ_8	-12.46728	709.7808	-0.02	0.986	

	Variable	Coefficient	Standard error	z	P>z
	job_1	-1.733633	.7560819	-2.29	0.022
	job_2	-1.367961	.8040736	-1.7	0.089
	job_3	-3.186855	1.832167	-1.74	0.082
	_cons	-3.425833	5.278366	-0.65	0.516

5. Conclusion and implications

The major hypotheses that this research attempted to verify included: first, whether or not the employment of a mother will affect her choice of childcare service for her pre-school age child; and second, the type of her employment – whether as a salaried worker or non-salaried worker and, if the latter, whether she is self-employed, an employer, or an unpaid family-business worker- will also impact her choice of childcare service. In addition, it was assumed that type of profession would be influential given that labor conditions vary considerably by profession.

According to the findings of this research, working women demonstrated a strong preference for daycare compared to non-working women. When only working women were considered, type of employment and profession turned out not to be influential, failing to verify the related hypothesis. Women in certain professions and most employment types indicated a strong preference for daycare compared to at-home care and private educational institutions.

Regarding the selection of childcare service, working women clearly favored daycare to at-home care or private educational institutions. However, type of profession and employment were not determining factors in the choice between daycare and preschool. Hence, it can be concluded that when it comes to working women's election of childcare service, their type of employment did not have a significantly different impact, at least upon their decision between daycare and preschool.

It is highly desirable for target of South Korean childcare policy to be set upon the support of working women in their efforts to achieve a balance between work and family lives. The daycare-focused childcare policy, in particular, responds appropriately to the preferences of working women in their choice of childcare service.

The results of this research also imply that what needs to be considered in meeting the childcare needs of working women is not the type of service institution (the choice between daycare and

preschool) but the programs provided by each institution based on the needs of the child. This appears to be a natural consequence given that the goal of a childcare policy is to support the sound development of children together with contributing to working mothers' work-life balance. In this regard, further research is necessary to encompass these aspects. One of the limitations of this research is that when a couple has more than one child the service used by the eldest child was selected for analysis. This also needs to be complemented by further research.

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