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***Observational Study***

**Time** **usage analysis and satisfaction comparison by occupational area according to the sex of single-parent families**

Jang WH *et al*. Time use of single-parent families

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**Abstract**

BACKGROUND

Single-parent families are burdened with dual roles as parents amidst economic poverty due to the lack of a spouse. Single parents also face the complications of time poverty.

AIM

To examine the time use of single-parent families by dividing their time into occupational area and explore the differences in time deficiency and life satisfaction.

METHODS

In this study, the time usage in the ‘2019 time of life survey’ data of the National Statistical Office is classified based on the fourth edition of the Occupational Therapy Practice Framework, and the time use and satisfaction of single-parent families classified according to sex. In the ‘2019 time of life survey’ of the National Statistical Office, the subjects who selected single-parent families in the ‘single parent-parent-grandchild households’ item were first selected. The data of 404 parents from single-parent families were selected next. The time usage, time deficiency, and life satisfaction were analyzed by occupational area.

RESULTS

The subjects spent the most time resting and sleeping, followed by engaging in instrumental activities of daily living (IADLs), work, and health management. As a result of comparing the subjects by sex, it was found that the male subjects spent more time on work than the female subjects, and the female subjects spent more time on IADLs, education and social participation. As a result of comparing time deficiency and life satisfaction, the male subjects felt that they lacked time compared to the female subjects. There was no significant difference in life satisfaction. By examining whether single-parent families' time use by occupational area affected the time deficiency, it was found that male's working time make them feel they have less time, while female's leisure time makes them feel they have more time.

CONCLUSION

This study made it possible to determine the characteristics of single-parent households’ time use and sex differences. Furthermore, it is expected to be used as basic data for measures to solve not only time poverty, but also economic poverty in single-parent families.

**Key Words:** Life satisfaction; Occupational area; Single-parent; Time deficiency; Time use

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**Core Tip:** Based on the Occupational Therapy Practice Framework-4, it was possible to find out the time use of single-parent family parents by dividing the occupational area. In addition, by examining the difference in time use according to sex, we felt the need to find an approach to solve the problem.

**INTRODUCTION**

Our society has emerged as a diverse family, breaking away from the traditional form of parents and children living together due to urbanization, nuclear familyization, and increased women's social advancement[1]. In recent years, there has been a rapid increase in the number of single-person households due to celibacy and unmarried status, single-parent families due to bereavement and divorce, and multicultural families across borders[2]. In addition, single-parent families are no longer considered as an exceptional family type[3]. Single-parent families were formed as a result of the spouse's bereavement. However, there is a recent increase in the proportion of divorce and separation[4]. As the number of artificial single-parent families increases (*e.g*., divorce and spontaneous bereavement), single-parent family members face more difficulties than two-parent families due to relationships within the family and problems with children[5]. In general, single-parent families suffer from dual roles as parents amidst economic poverty because of the lack of a spouse[1]. Among them, single-father families often complain of greater difficulties in raising children and housework than in terms of economic difficulties, while single-mother families experience greater economic difficulties[6]. Nevertheless, both families are solely responsible for paid work and housework, so they also face the complications of time poverty[7].

Time is the most basic element of everyday life[8], and its efficient use refers to the careful planning and use of time[9]. Efficient use of time prevents stress, promotes health, and helps achieve self-realization[10]. In other words, the planned use of time is essential for achieving a more balanced life and a higher level of life satisfaction[11]. In addition, recognizing the current situation is important because a person’s awareness of their use of time can affect their quality of life[12]. These characteristics show that time is closely linked to occupation[13].

Consequently, studies were conducted to determine how different the participants use their time based on occupational area[13-17]. First, one study examined the use of time by occupational area for mothers with young children, thereby suggesting that the group that used time in a balanced manner had less parenting time and spent more time on sleep and leisure than the other group[13]. Another study was conducted on adolescents with disabilities regarding the use of time and satisfaction[14]. The study results showed that disabled adolescents used the majority of their time on rest and sleep, followed by activities of daily living (ADLs), education, leisure, social participation, and play[14]. It was also found that the group that used time in a balanced manner showed the highest satisfaction[14]. A comparative study was conducted on the elderly regarding the difference in time use between the local community of the elderly and the nursing home of the elderly[15]. Studies have shown that the nursing homes for the elderly spend less time than the local community of the elderly on self-management, work/education, play, and leisure activities[15]. According to a study comparing spinal cord injury patients with time use by the general public, patients with spinal cord injury had increased eating and bathing time due to physical difficulties, but had less leisure activities[16]. Finally, one study on time use by life cycle found that early adolescents spend the most time on education and play, while the elderly spend more time on rest, sleep, and leisure than the other periods[17]. In contrast, the studies presented above classified the occupational area based on the researcher’s criteria without any special criteria, and investigated the use of time accordingly[13,14,16]. Studies have also shown that the criteria classified occupational areas and investigated time use in accordance with the third edition of the Occupational Therapy Practice Framework, which was published in 2014[14,17].

Studies have also been conducted on the use of time in single-parent families[6,18-20]. First, single-parent families were found to have less parenting and care time for their children, and devoted more of their time to work than ordinary families[18]. A study comparing the use of time in single-parent families based on sex showed that, when compared to single-father families and single-mother families, household labor reduced usage time and increased leisure time[6,19]. On the other hand, it was reported that single-mother families spend more time on housework than single-father families, regardless of whether they are employed or not. They also spend more time on housework during non-working days, resulting in a greater lack of time[6,20]. Subsequently, there were studies examining the use of time in single-parent families, but none that limited the subjects to women[18], or identified the use of time in single-parent families based on the sex of the parent[6,19,20]. In addition, no research has been conducted on the use of time for single-parent families by classifying occupational areas in accordance with the fourth edition of the newly published Occupational Therapy Practice Framework in 2020. Single-parent families are expected to differ in their time use by occupational area based on sex, as well as differences in time deficiency and life satisfaction.

Therefore, the time usage data of the National Statistical Office from the ‘2019 time of life survey’ is classified in this study based on the fourth edition of the Occupational Therapy Practice Framework, as well as the time use and satisfaction of single-parent families according to sex.

**MATERIALS AND METHODS**

***Study subjects***

This study used the raw data from the '2019 time of life survey' of the National Statistical Office. In a nationwide sample of 12345 households, those who selected single-parent families in the 'single parent-parent-grandchild households' item were first selected out of approximately 27,000 members of households 10 years of age and older. Among them, a total of 404 subjects were selected next and analyzed, all of whom were single parents (Figure 1). The characteristics of the study subjects were classified into sex, age, marital status, education level, and job status. This study was carried out after the approval of the Kangwon National Institutional Review Board (Approval No. KWNUIRB-2021-07-002).

***Study tool***

**2019 time of life survey:** The time of life survey, which began in 1999, is a nationwide survey conducted every 5 years in order to determine how the subjects use the 24 h in a day and to measure the lifestyle and quality of life of the people[21]. The survey was prepared by dividing the daily behavior into main and simultaneous behavior in a time log with 10-min intervals. In the '2019 time of life survey', behavior was largely classified into 'Personal maintenance', 'Work', 'Learning', 'Home management', 'Care of family and members', 'Volunteer and unpaid training', 'Relationship activities and participating activities', 'Cultural and leisure activities', and 'Locomotion'.

**Time deficiency and life satisfaction:** The raw data on time deficiency and life satisfaction surveyed together with the time diary of the National Statistical Office were used. Time deficiency was reverse-coded using a 4-point Likert scale to facilitate interpretation in the items of 'Always feeling inadequate' (1 point) to 'Always feeling free' (4 points). Therefore, a higher score indicates time deficiency. Life satisfaction refers to a state of satisfaction with one's life, and a 5-point Likert scale was used with 'very satisfied' (1 point) to 'very dissatisfied' (5 points), and reverse-coded for the same reason. Consequently, a higher score indicates more satisfaction with life.

***Procedure: Classification of behaviors according to occupational area***

In studies related to time use, behavioral classification varies depending on the purpose of the study[17]. In the '2019 time of life survey' of the National Statistical Office, the behavior of the subjects was classified into 'required time', 'duty time', and 'leisure time'. However, the subject's behavior was reclassified in this study and used under the following: ADLs, instrumental ADLs (IADLs), health management, rest and sleep, education, work, leisure, and social participation based on the Occupational Therapy Practice Framework-4[22] (Figure 1). The following is a classification of behavior according to the occupational area (Table 1).

***Statistical analysis***

The data collected in this study were analyzed using SPSS 25.0 Version. The general characteristics and time usage of the study subjects were presented using frequency analysis and descriptive statistics, respectively. Independent *t*-test was used to compare time usage by occupational area, time deficiency and life satisfaction between sexes. In addition, multiple linear regression analysis was used to determine whether time usage by occupational area affects time deficiency. The stepwise analysis method was used with *P* < 0.05 as the cut-off for statistical significance.

**RESULTS**

***General characteristics of the subjects***

The total number of subjects was 404, with 134 male subjects (33.2%) and 270 female subjects (66.8%). The subjects in their 40s were the most common with 250 subjects (61.9%). In terms of marital status, divorced [336 subjects (83.2%)] was the highest, followed by bereavement [64 subjects (15.8%)], and single [4 subjects (1.0%)]. In terms of education level, high school graduates [166 subjects (41.1%)] were the most common, while 320 subjects (79.2%) were working and 84 subjects (20.8%) were not working. The following is the detailed general characteristics of the study subjects (Table 2).

***Time usage by single-parent family's occupational area***

As a result of classifying the time usage of single-parent families according to the occupational area, sleep and rest were most frequently used in an average of 500.47 min (34.8%), followed by work (15.8%), ADLs (13.0%), leisure (12.7%), social participation (2.8%), education (0.5%), and health management (0.5%) (Table 3, Figure 2).

***Comparison of time usage by occupational area according to sex***

As a result of comparing the amount of time spent by occupational area according to the sex of single-parent families, the male subjects spent more time on work (*P* < 0.001) than the female subjects, while the female subjects spent more time on IADLs (*P* < 0.001), education (*P* < 0.05), and social participation (*P* < 0.05) (Table 4). In the sub-item, the male subjects showed significantly higher time usage in rest (*P* < 0.01), Paid work (*P* < 0.001), other work (*P* < 0.001) and other leisure (*P* < 0.01) than the female subjects. On the other hand, the female subjects spent significantly more time in personal maintenance (*P* < 0.05), home management (*P* < 0.001), other IADLs (*P* < 0.01), sleep (*P* < 0.05), out-of-school learning (*P* < 0.05), and relationship activities (*P* < 0.01) compared to the male subjects (Table 4).

***Analysis of time deficiency and life satisfaction according to sex***

Based on the comparison of time deficiency and life satisfaction according to the sex of single-parent families, there was a significant difference between sexes in terms of time deficiency. The male subjects felt that they lacked time than the female subjects (*P* < 0.05). There was no significant difference in life satisfaction (Table 5).

***Effects of time usage by occupational area on time deficiency***

Multiple linear regression analyses were conducted to determine whether time use by occupational area influenced their perception of time deficiency. The stepwise analysis method was used (Table 6).

For the males, results of the analysis showed that the regression model was appropriate with F = 6.461 (*P* < 0.05), and work had a significant positive effect on the feeling of time deficiency with B = 0.001 (*P* < 0.05). Therefore, an increase in male’s time use for Work by 1 min increases the time deficiency by 0.001 (Table 6).

For females, F = 4.946 (*P* < 0.05) can be said to be suitable for this regression model, and leisure is B = -0.001 (*P* < 0.05), which had a significant negative effect on the time deficiency. Therefore, it was found that an increase in time usage for leisure by 1 min decreased the time deficiency by 0.001 (Table 6).

**DISCUSSION**

The purpose of this study was to determine the time use and satisfaction of single-parent families according to sex.

For this reason, the National Statistical Office's ‘2019 time of life survey’ classified occupational areas based on Occupational Therapy Practice Framework-4 and analyzed their characteristics. The following summarizes the results of this study.

First, by examining the general characteristics of the subjects, it was found that there were more female subjects [270 (66.8%)] than male subjects [134 (33.2%)]. Those in their 40s were the most common with 250 subjects (61.9%). In terms of marital status, divorced [336 subjects (83.2%)] was the highest, followed by bereavement [64 subjects (15.8%)], and single [4 subjects (1.0%)]. In terms of education level, high school graduates [166 subjects (41.1%)] were the most common, while 320 subjects (79.2%) were working and 84 subjects (20.8%) were not working. In terms of sex, the number of female subjects was about twice that of the male subjects. Although studies have recently reported that the number of single-father families is increasing[23,24], it is believed that single-mother families still occupy a higher percentage due to the fact that the role of childbirth is limited to women. In terms of marital status, divorced accounted for the highest percentage at 83.2%. Due to changes in people's values over time, it appears that the number of artificial single-parent families, such as those divorced, is increasing, in comparison to spontaneous single-parent families caused by bereavement in the past. This is supported by the results of previous studies that the proportion of divorce is increasing[4].

Based on the result of examining the time consumption by occupational area of single-parent families, sleep and rest were the highest at 34.8%, followed by IADLs (19.9%), work (15.8%), ADLs (13.0%), leisure (12.7%), social participation (2.8%), education (0.6%), and health management (0.5%). Sleep is the highest because it is one of the basic human needs and approximately 80% of the subjects in this study are middle-aged people aged 40 and above. Furthermore, IADLs and work, which showed the next highest areas, were found to be essential elements for the subjects to perform both roles as domestic workers and paid workers simultaneously. This is supported by the results of another study on time use among middle-aged people, showing that sleep and rest were the highest, followed by work and IADLs[23]. In the case of a married couple with a spouse, the division of labor allows for more flexible use of time, and the results of that study are compared with the results of this study[25-27].

When the difference in time usage by occupational area according to the sex of single-parent families was compared, the male subjects were found to spend 111.5 min more on work than the female subjects, and the female subjects spent 99.11 min on IADLs, 11.4 min on education, and 11.79 min more on social participation. The female subjects spent about 1.5 times more time on IADLs, which included housework, than the male subjects, while women spent less time on paid working hours and most leisure activities. According to these results, the female subjects are more likely to face a greater risk of time and economic poverty than the male subjects. There was also a significant difference between sexes in the field of social participation, but there was no difference in participation activities. However, the male subjects spent 12.33 min less on relationship activities than the female subjects. These results show that after the formation of a single-parent family, the male subjects have less exchanges with people around them than the female subjects. This is supported by the results of a study that single-parent families suffer psychological atrophy due to social prejudice, *etc*, and that the male subjects have more difficulty participating in society than the female subjects[24].

Comparison of time deficiency and life satisfaction according to the sex of single-parent families showed no significant difference in life satisfaction. However, there was a significant difference between sexes regarding time deficiency, and the male subjects felt that they lacked time compared to the female subjects (*P* < 0.05). In this study, both men and women received scores corresponding to the 4-point Likert scale, 'Sometimes feeling insufficient' (2 points), indicating that both single-parent families feel insufficient time use. In the case of single-parent families, they are simultaneously playing the roles of domestic and paid workers, thus feeling the lack of time use. In addition, it is believed that the results of this study showed slightly lower results because the male subjects spent more time in the work area than the female subjects. Previous studies have shown that when single-parent families work, the female subjects feel that they have less time than the male subjects[20]. This study’s classification of the occupational area based on the Occupational Therapy Practice Framework-4 is thought to have yielded different results from the previous one.

By examining whether single-parent families' time use by occupational area affected the time deficiency, significant differences between sexes were observed, with the male's working time making them feel they have less time, while the female's leisure time makes them feel they have more time. In the case of men, they felt that as working time increased, time deficiency increased, and for women, the lack of time decreased as the time spent on leisure increased. These results are consistent with the results of previous studies that show that working hours are a factor that consistently makes people feel short of time regardless of weekdays and weekends[28]. Based on this, it is thought that economic support is needed to reduce working hours to resolve men's time deficiency. In addition, various ways to spend leisure time should be sought to reduce women's time deficiency.

The limitation of this study is that the survey days were not distinguished between weekdays and weekends, and the raw data of the National Statistical Office were analyzed as secondary data. As a result, the sex ratio of single-parent families was not met. It was difficult to determine what factors were related to the lack of time use and life satisfaction. However, despite these limitations, it was possible to identify the use of time by single-parent families by dividing the occupational area based on the Occupational Therapy Practice Framework-4. In addition, by examining the differences in time use according to sex, I became aware of the need to find an approach to solving problems and solutions. Therefore, it is important that single-parent families understand their grievances by indicating the areas they are having difficulty using time, and that this information can be used as basic data for policy establishment in order to address both time poverty and economic support.

**CONCLUSION**

Single-parent families spent the most time on sleep and rest, followed by IADLs and work, with the least time spent on health management. When comparing the time usage between single-parent families by sex, the male subjects spent significantly more time on rest, paid work, and other leisure activities than the female subjects, while the female subjects spent significantly more time on personal maintenance, home management, other IADLs, sleep, out-of-school learning, and relationship activities. There was no significant difference in life satisfaction; but it was higher among the male subjects, and time deficiency showed that the male subjects were significantly lacking.

Based on these results, it was possible to determine the characteristics of single-parent families' use of time and differences according to sex. Finally, the findings are expected to be used as basic data for measures to solve not only economic poverty, but also time poverty in single-parent families.

**ARTICLE HIGHLIGHTS**

***Research background***

Single-parent families face not only economic poverty but also time poverty due to the absence of a spouse.

***Research motivation***

Single-parent families have time issues for a variety of reasons, so it's important to identify what time issues they have so that you can address them.

***Research objectives***

We wanted to categorize single-parent families by occupational area to examine their time use and understand their sense of time deficiency and life satisfaction.

***Research methods***

This study utilized microdata from Statistics Korea to categorize single-parent households and understand their time use.

***Research results***

Single-parent families differed in the amount of time spent on each occupational area by sex, and while they did not differ in life satisfaction, they did differ in their perceived lack of time.

***Research conclusions***

The findings on the time use characteristics of single-parent families by sex should be used to explore ways to address time poverty.

***Research perspectives***

It is hoped that our findings on the time use of single-parent families by occupational area will serve as a basis for addressing time poverty.

**REFERENCES**

1 **Nam HJ**, Yoon HS, Lee TY, Shin CY, Lee DH. A Understanding Adolescents' Development and Adaption in Single Parent Families: A review of the literature. *The* *Korean J Woman Psychol* 2013; **18**: 129-168 [DOI: 10.18205/kpa.2013.18.1.007]

2 **Im SW**, Park JH. A Qualitative Study on Single Parents’ Experience of Child Rearing: The Capability Approach. *J Open Parent Educ* 2018; **10**: 1-28

3 **Kim YW**. The Current State of Single-Parent Families: Welfare Needs and Policy Implications. *Health* *W**elf* *P**olicy Forum* 2012; **187**: 50-59

4 **Jung YS**. Children Problem of Single-Parent Families and Psychotherapy - Based on the Theory of A. Adler -. *Theology Praxis* 2016; **0**: 339-361 [DOI: 10.14387/jkspth.2016.52.339]

5 **Choi YJ**. A Study on the Direction of the Policy for Single-Parent Household Support. *Korean J Clin* *Social Work* 2015; **12**: 59-74

6 **Seong ES**. The difference in time use according to sex when performing the same role. *Korean* *Academy Social Welf* 2007; **2007**: 453-459

7 **Kim HS**.The Effect of Paid work time, Unpaid work time and Perceived lack of time of Single-Parent on the Out-of-school Learning time and Computer use time of the Children. *Korean J Family Soc Work* 2019; **63**: 65-96 [DOI: 10.16975/kjfsw.2019..63.003]

8 **Jeon BJ**.A Study on Factors Influencing Elderly's Life Time Use and Occupational Balance. Doctoral dissertation, Sungkyunkwan University. 2011. Available from: http://www.riss.kr/link?id=T12307206

9 **Hong SP**, Jang MN, Seo EK. Time Use Among People With Tetraplegia Participating in Wheelchair Rugby. *J Korean Soc* *Occup Ther* 2011; **19**: 1-12

10 **Kim YG**. The Analysis Study of Life-Style for Efficient Occupational Performance. *The J Korean Soc* *Occup Ther* 2005; **13**: 51-62

11 American Occupational Therapy Association. Occupational therapy practice framework: Domain and process (3rd ed.). *Am Occup Ther* 2014; **68**: 1-48 [DOI: 10.5014/ajot.2014.682006]

12 **Park EJ**, Lee SL. Differences in Time Deficit and Time Satisfaction According to the Types of Child Care Time of Dual-earner Couples with Preschool Children. *J Korean Home Manag Assoc* 2013; **31**: 97-111 [DOI: 10.7466/JKHMA.2013.31.4.097]

13 **Hong SY**, Kim KM. Time Use and Occupational Balance of Mothers With Young Children. *J Korean Soc Occup Ther* 2014; **22**:125-139 [DOI: 10.14519/jksot.2014.22.3.10]

14 **Bak AR**, Cha TH. Occupational Balance and Time Use Satisfaction of Adolescents With Disabilities. *J Korean* *Soc Sensory Integrat Ther* 2020; **18**: 44-55 [DOI: 10.18064/JKASI.2020.18.1.44]

15 **Park HK**, Jeon BJ, Lee JS, Kim SK. Local Community and Nursing Home of the Resident Elderly in the Comparative Study of the Time Use for Occupational Balance. *Korean Soc Community-Based Occup Ther* 2014; **4**: 41-51

16 **Jang JS**.Occupational Balance Survey Study of Spinal Cord Injury. *Asia-**Pacific J Mult Servi Conver Art Human Soc* 2018; **8**: 877-886 [DOI: 10.35873/ajmahs.2018.8.2.085]

17 **Hong SP**, Lee JY. Time Use of Areas of Occupation According to the Periods of Life in Koreans. *J Korean Soc Occup Ther* 2010; **18**: 95-106

18 **Raymo JM**, Park H, Iwasawa M, Zhou Y. Single Motherhood, Living Arrangements, and Time With Children in Japan. *J Marriage Fam* 2014; **76**: 843-861 [PMID: 25125704 DOI: 10.1111/jomf.12126]

19 **Yoon SY**. Time Use and Leisure Activity Status Analysis of Single-Parent-Family- Focusing on Living Experience for a Happy Life. *J Family Res Manag Policy Rev* 2013; **17**: 1-18

20 **Kim OS**, Park EJ. Time Use and Time Famine in Single-Parent Families: A Comparison of Single Mothers and Fathers. *J Family Res Manag Policy Rev* 2018; **22**: 1-19 [DOI: 10.22626/jkfrma.2018.22.3.001]

21 Statistics Korea. (2019). Average Time Spent on Activities.

22 Occupational Therapy Practice Framework: Domain and Process-Fourth Edition. *Am J Occup Ther* 2020; **74**: 7412410010p1-7412410010p87 [PMID: 34780625 DOI: 10.5014/ajot.2020.74S2001]

23 **Kim YJ**, Hong SP, Park HY. Analysing Korean Occupational Time Changing Trend Based on Ages Using 2004, 2009, 2014 Time Use Survey. *J Korean Soc Occup Ther* 2017; **25**: 13-25 [DOI: 10.14519/jksot.2017.25.3.02]

24 **Moon EY**. The situation and problems of single-dad families in Seoul based on a fact-finding research. *J Public Soc* 2011; **1**: 135-174

25 **Kim HJ**. Effects of Economic and Health Factors on Life Satisfaction of Single Parents` Household. *Soc Welf Policy* 2016; **43**: 191-214 [DOI: 10.15855/swp.2016.43.2.191]

26 **Koh SK**. Determinants of household expenditure in single-parent families: A comparison between single-mother families and single-father families. *Korea* *Family* *Res Manag Assoc*2018; **22**: 99-118 [DOI: 10.22626/jkfrma.2018.22.1.006]

27 **Joo IH**, Joo EW. Paid Work, Housework, Care Work, Leisure Time Use Effects on Leisure Satisfaction: Focusing on Dual Earner Couples' Spouse Effects. *Korea J Popul Stud* 2021; **44**: 109-133 [DOI: 10.31693/KJPS.2021.03.44.1.109]

28 **Kwon J**, Park SB, Kim JW. A Study on the Effect of Living Time Composition on Happiness in Married Men in Korea. *Stud Life Culture* 2021; **62**: 97-12 [DOI: 10.17924/solc.2021.62.97]

**Footnotes**

**Institutional review board statement:** The study was reviewed and approved by the Kangwon National Institutional Review Board (Approval No. KWNUIRB-2021-07-002).

**Informed consent statement:** Patients were not required to give informed consent to the study because the analysis used anonymous clinical data that were obtained after each patient agreed to treatment by written consent.

**Conflict-of-interest statement:** All the authors declare having no conflicts of interest.

**Data sharing statement:** All data are available on reasonable request from the corresponding author.

**STROBE statement:** The authors have read the STROBE Statement—checklist of items, and the manuscript was prepared and revised according to the STROBE Statement—checklist of items.

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**Figure Legends**

图示

描述已自动生成

**Figure 1 Flowchart of behavioral classification and subject selection.** Categorize behaviors based on occupational area. ADLs: Activities of daily living; IADLs: Instrumental activities of daily living*.*

图表, 饼图

描述已自动生成

**Figure 2** **Time** **usage by occupational area.** Pie chart of time usage for a single-parent family.ADLs: Activities of daily living; IADLs: Instrumental activities of daily living*.*

**Table 1 Categorization of** **life time based on Occupational Therapy Practice Framework-4**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Occupational area** | **Code** | **Activities** | **Code** | **Activities** | **Code** | **Activities** |
| ADLs | 12 | Meals and snacks | 14 | Personal  maintenance |  |  |
| IADLs | 41 | Food preparation | 42 | Clothes care | 43 | Cleaning |
|  | 44 | Management of housing | 45 | Vehicle care | 46 | Care of animals and plants |
|  | 47 | Purchase of items and services | 49 | Other home management | 51 | Care for children under 10 years of age |
|  | 52 | Care for elementary, middle, and high school students over 10 years of age | 53 | Care for adult families and household members with long-term care needs | 54 | Care of independent adult families |
|  | 73 | Religious activities | 74 | Ritual activities | 91-98 | Locomotion |
| Health management | 13 | Personal medical care |  |  |  |  |
| Rest and  sleep | 11 | Sleep | 85 | Rest |  |  |
| Education | 31 | School activities | 32 | Out-of-school learning |  |  |
| Work | 21 | Employed work | 22 | Self-employment work | 23 | Unpaid work in family business |
|  | 24 | Other work | 25 | Job-seeking activity | 26 | Purchasing goods related to job |
|  | 61 | Non-organization-based volunteer work | 62 | Organization-based volunteer work | 63 | Unpaid training |
| Leisure | 81 | Leisure activities using media | 82 | Cultural and tourism activities | 83 | Sports and leisure sports |
|  | 84 | Game and play | 89 | Other leisure |  |  |
| Social  participation | 71 | Relationship activities | 72 | Participating activities |  |  |

ADLs: Activities of daily living; IADLs: Instrumental activities of daily living.

**Table 2 General characteristics, *n* = 404**

|  |  |  |  |
| --- | --- | --- | --- |
| **Characteristics** | | **Total,** ***n* (%)** | |
| Sex | Male | 134 (33.2) | |
|  | Female | 270 (66.8) | |
| Age |  | Total, *n* (%) | M:F (%:%) |
| 20-29 | 14 (3.5) | 0:14 (0:100) |
| 30-39 | 76 (18.8) | 16:60 (21.1:78.9) |
|  | 40-49 | 250 (61.9) | 74:176 (29.6:70.4) |
| 50-59 | 62 (15.3) | 42:20 (67.7:32.3) |
| 60- | 2 (0.5) | 2:0 (100:0) |
| Marital  status | Single | 4 (1.0) | 0:4 (0:100) |
|  | Bereavement | 64 (15.8) | 6:58 (9.4:90.6) |
|  | Divorced | 336 (83.2) | 128:208 (38.1:61.9) |
| Education  level | Elementary | 4 (1.0) | 2:2 (50:50) |
| Middle school | 20 (5.0) | 10:10 (50:50) |
| High school | 166 (41.1) | 58:108 (34.9:65.1) |
|  | College | 114 (28.2) | 40:74 (35.1:64.9) |
| University | 84 (20.8) | 18:66 (21.4:78.6) |
| Master's degree  or higher | 16 (4.0) | 6:10 (37.5:62.5) |
| Job status | Yes | 320 (79.2) | 122:198 (38.1:61.9) |
|  | No | 84 (20.8) | 12:72 (14.3:85.7) |

F: Female; M: Male.

**Table 3 Time** **usage in minutes by occupational area,** ***n* = 404**

|  |  |  |
| --- | --- | --- |
| **Area** | **mean ± SD** | **(%)** |
| ADLs | 186.53 ± 80.35 | (13.0) |
| Eating | 107.95 ± 44.08 | (57.9) |
| Personal maintenance | 78.59 ± 36.27 | (42.1) |
| IADLs | 286.01 ± 286.93 | (19.9) |
| Locomotion | 94.21 ± 72.59 | (32.9) |
| Home management | 139.23 ± 108.31 | (48.7) |
| Care of family and members | 43.81 ± 68.38 | (15.3) |
| Other | 8.76 ± 37.64 | (3.1) |
| Health management | 7.65 ± 30.06 | (0.5) |
| Personal medical care | 7.65 ± 30.06 | (100.0) |
| Rest and sleep | 500.47 ± 136.43 | (34.8) |
| Rest | 13.07 ± 25.22 | (2.6) |
| Sleep | 487.40 ± 111.21 | (97.4) |
| Education | 9.26 ± 60.31 | (0.6) |
| School activities | 0.59 ± 11.94 | (6.4) |
| Out-of-school learning | 8.66 ± 48.36 | (93.6) |
| Work | 227.20 ± 263.66 | (15.8) |
| Paid work | 215.54 ± 219.58 | (94.9) |
| Unpaid work |  |  |
| Volunteer work | 0.84 ± 10.39 | (0.4) |
| Job-seeking activity | 0.82 ± 8.55 | (0.4) |
| Other | 10.00 ± 25.14 | (4.4) |
| Leisure | 182.45 ± 270.12 | (12.7) |
| Cultural and tourism activities | 4.95 ± 25.98 | (2.7) |
| Sports and leisure sports | 21.83 ± 52.19 | (12.0) |
| Leisure activities using media | 139.51 ± 130.95 | (76.5) |
| Game and play | 7.52 ± 26.01 | (4.1) |
| Other | 8.64 ± 34.98 | (4.7) |
| Social participation | 40.42 ± 62.32 | (2.8) |
| Relationship activities | 28.39 ± 43.21 | (70.2) |
| Participating activities | 12.03 ± 19.11 | (29.8) |

ADLs: Activities of daily living; IADLs: Instrumental activities of daily living; SD: Standard deviation.

**Table 4 Time** **usage in minutes by occupational area according to sex**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Area** | **Males,** ***n* = 134** | **Females,** ***n* = 270** | **Male-female** | ***t*** |
| **mean ± SD** | **mean ± SD** |
| ADLs | 183.73 ± 49.47 | 187.93 ± 57.07 | -4.2 | -0.726 |
| Eating | 111.42 ± 38.39 | 106.22 ± 43.62 | 5.2 | 1.116 |
| Personal maintenance | 72.31 ± 31.17 | 81.7 ± 38.23 | -9.39 | -2.465a |
| IADLs | 219.78 ± 125.57 | 318.89 ± 141.55 | -99.11 | -6.873c |
| Locomotion | 99.03 ± 74.22 | 91.81 ± 71.79 | 7.22 | 0.94 |
| Home management | 85.22 ± 81.26 | 166.04 ± 110.17 | -80.82 | -7.533c |
| Care of family and members | 34.78 ± 52.3 | 48.3 ± 74.78 | -13.52 | -1.877 |
| Other | 0.75 ± 8.64 | 12.74 ± 45.14 | -11.99 | -3.046b |
| Health management | 9.48 ± 41.39 | 6.74 ± 22.45 | 2.74 | 0.861 |
| Personal medical care | 9.48 ± 41.39 | 6.74 ± 22.45 | 2.74 | 0.861 |
| Rest and sleep | 489.1 ± 95.94 | 506.11 ± 116.96 | -17.01 | -1.457 |
| Rest | 18.36 ± 33.94 | 10.44 ± 19.04 | 7.92 | 2.998b |
| Sleep | 470.75 ± 98.63 | 495.67 ± 116.24 | -24.92 | -2.13a |
| Education | 1.64 ± 13.39 | 13.04 ± 61.52 | -11.4 | -2.118a |
| School activities | 0 ± 0 | 0.89 ± 14.61 | -0.89 | -0.704 |
| Out-of-school learning | 1.64 ± 13.39 | 12.15 ± 58.13 | -10.51 | -2.064a |
| Work | 301.72 ± 243.18 | 190.22 ± 208.29 | 111.5 | 4.786c |
| Paid work | 286.27 ± 235.17 | 180.44 ± 202.88 | 105.83 | 4.677c |
| Unpaid work | - | - |  |  |
| Volunteer work | 0 ± 0 | 1.26 ± 12.7 | -1.26 | -1.147 |
| Job-seeking activity | 0.45 ± 5.18 | 1 ± 9.8 | -0.55 | -0.611 |
| Other | 15 ± 32.14 | 7.52 ± 20.44 | 7.48 | 2.84c |
| Leisure | 202.01 ± 162.91 | 172.74 ± 134.54 | 29.27 | 1.917 |
| Cultural and tourism activities | 7.24 ± 35.91 | 3.81 ± 19.24 | 3.43 | 1.248 |
| Sports and leisure sports | 25.82 ± 52.76 | 19.85 ± 51.89 | 5.97 | 1.083 |
| Leisure activities using media | 143.51 ± 144.36 | 137.52 ± 124 | 5.99 | 0.432 |
| Game and play | 10.22 ± 32.59 | 6.19 ± 21.98 | 4.03 | 1.471 |
| Other | 15.22 ± 44.48 | 5.37 ± 28.68 | 9.85 | 2.686b |
| Social participation | 32.54 ± 41.25 | 44.33 ± 49.6 | -11.79 | -2.375a |
| Relationship activities | 20.15 ± 37.32 | 32.48 ± 45.37 | -12.33 | -2.722b |
| Participating activities | 12.39 ± 19.36 | 11.85 ± 19.02 | 0.54 | 0.265 |

a*P* < 0.05.

b*P* < 0.01.

c*P* < 0.001.

ADLs: Activities of daily living; IADLs: Instrumental activities of daily living;SD: Standard deviation.

**Table 5 Time deficiency and life satisfaction according to sex (Unit: Score)**

|  |  |  |  |
| --- | --- | --- | --- |
| **Parameter** | **Males, *n* = 134** | **Females, *n* = 270** | ***t*** |
| **mean ± SD** | **mean ± SD** |
| Time deficiency | 2.18 ± 0.83 | 1.97 ± 0.93 | 2.202a |
| Life satisfaction | 3.04 ± 0.87 | 2.96 ± 0.91 | 0.939 |

a*P* < 0.05.

SD: Standard deviation.

**Table 6 Effects of time usage by occupational area on time deficiency**

|  |  |  |  |
| --- | --- | --- | --- |
| **Parameter** | **Males,** ***n* = 134** | **Parameter** | **Females,** ***n* = 270** |
| **B** | **B** |
| Work | 0.001a | Leisure | -0.001a |
| (Constant) | 2.598 | (Constant) | 3.190 |
| *F* | 6.461a | *F* | 4.946a |
| Adjusted *R2* | 0.039 | Adjusted *R2* | 0.014 |

a*P* < 0.05.

B: Unstandardized coefficients.