

Seasonality and the Reallocation of Time

A Comparison of *Hungary* and *South Korea*

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Purpose of the Research

- Seasonal variation of daily life behaviors in Hungary and South Korea
- Research question: Would distinguishable seasons have an impact on our daily life?
- Time use data: Good data to understand a seasonality of daily life in a society → Hungarian and Korean seasonality of daily life
- An exploratory study

Related concepts and previous literature

- Colloquial knowledge about seasons' effects on our lives:
 - Winter sleep/ hibernation; getting blue in the fall; Getting sentimental in the spring
- Previous research:
 - Circadian rhythm
 - Weather and the reallocation of time
 - 'Intertemporal substitution/ elasticity of labor': In bad weather, workers would substitute their leisure for work → contradictory evidence
 - More work, less leisure on a rainy day: Young-kwan Lee, 2012; Marie Connolly, 2007; 2008., Jamie E.L. Spinney at al., 2011., Jens J. Kruger et al., 2018.
 - The higher temperature, the less work, the more leisure for the unemployed: Joshua Zivin, 2014.
 - Weather condition mostly unrelated to life satisfaction: Richard E. Lucas, 2013.
 - Climate and happiness: Katrin Rehdanz et al., 2004: climate-related temperature and precipitation have high effect on self-reported happiness
 - Seasonal variation in sleep problems: Borge Sivertsen et al., 2011.

Seasons in Hungary and South-Korea

	Hungary	South-Korea				
Seasons	4 seasons	4 seasons				
Climate	Typical European Continental	Humid continental/subtropical with dry winters				
Winter	Fairly cold, less than 40 days of snow (around 0, can be lower) – coldest month: January	Long, cold and dry – coldest month: January (~-5 Celsius)				
Summer	Warm, dry summer (20-25 C, but can be more)	Short, hot, humid (July and August: 23-28 C)				
Spring/Fall	Spring has a lot of rainfall	Pleasant, but short				

Data

Hungarian Time Use Survey

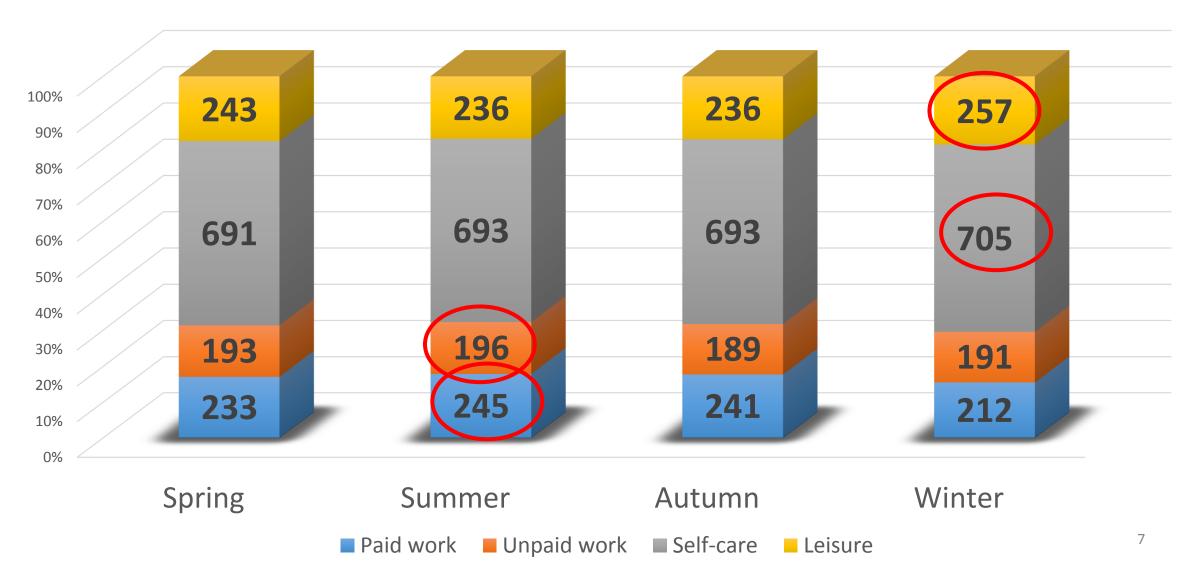
- Dates: 1st of October 2009 30th of September 2010 (all year)
 Recoded into 4 seasons
- Target group in study: 18-59 year old working age adults (students excluded)
- Variables: paid work, unpaid work, personal care (sleep and other), leisure

Korean Time Use Survey

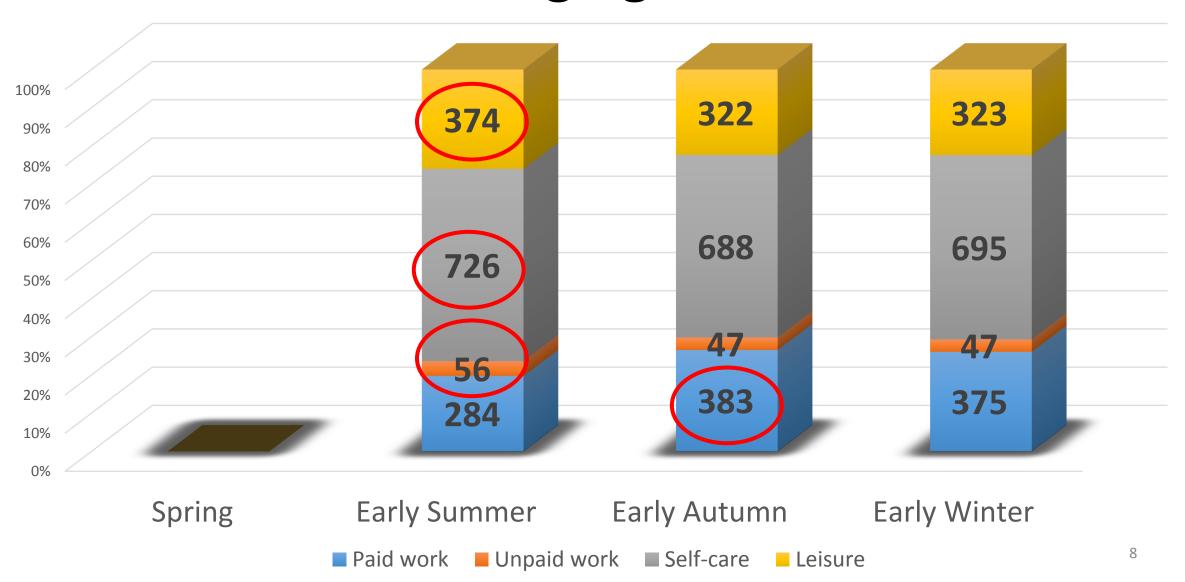
- Dates: 2014 July (summer),
 September (early autumn), November (early winter)
- Target group in study: 18-59 year old working age adults (students excluded)
- Variables: paid work, unpaid work, personal care (sleep and other), leisure

Seasonality of Paid Work, Unpaid Work, Personal Care and Leisure

Seasonal Variations for *Hungarian*Working Aged Adults

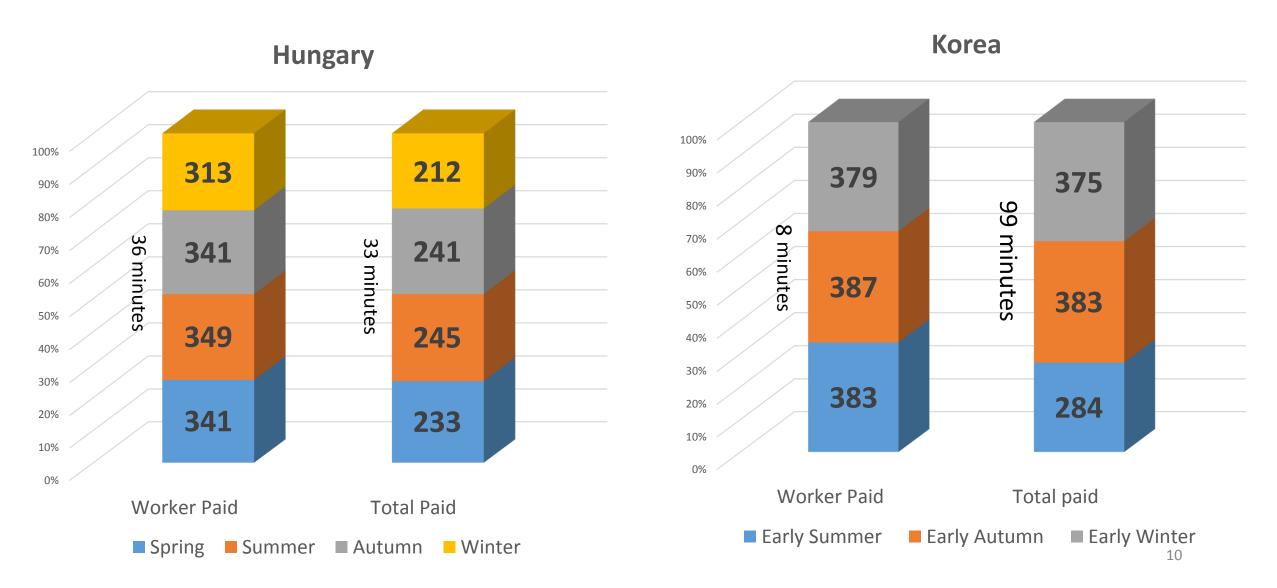


Seasonal Variations for *Korean*Working Aged Adults

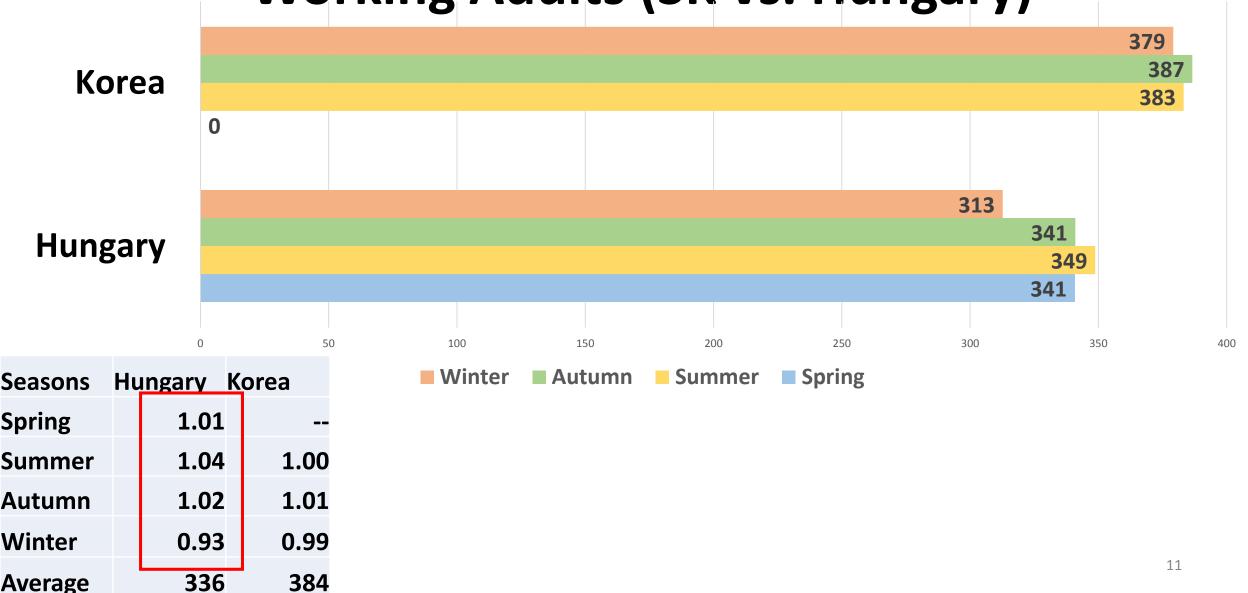


Seasonal Variation of Paid Work

Seasonality of Paid Work of Working Adults and the Working Aged in *Hungary* and *SK*



Seasonal Variations in Paid Work for Working Adults (SK vs. Hungary)

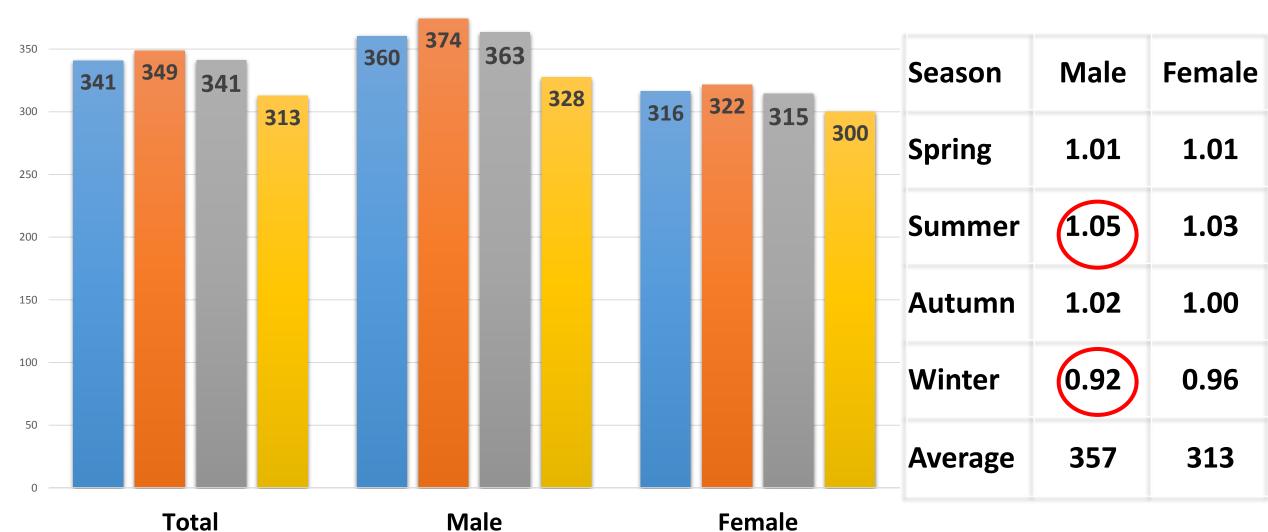


384

Average

Seasonal Variation of Paid Work by Gender

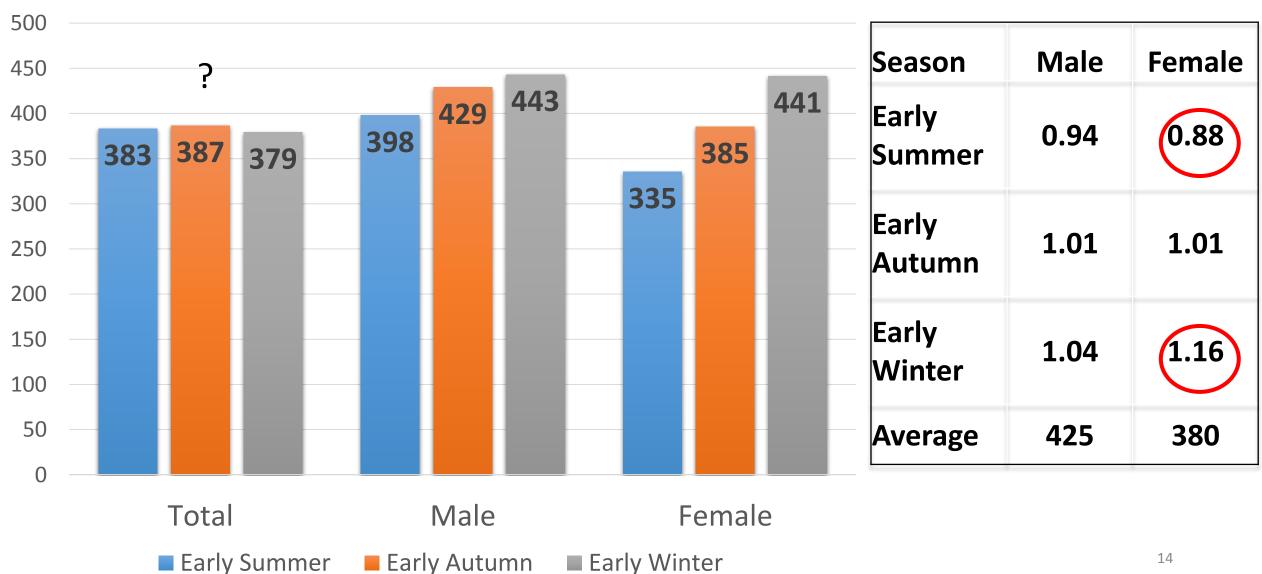
Seasonal Variations in Paid Work for Working Aged Adults by Gender: *Hungary*



Autumn

Summer

Seasonal Variations in Paid Work for Working Aged Adults by Gender: *SK*

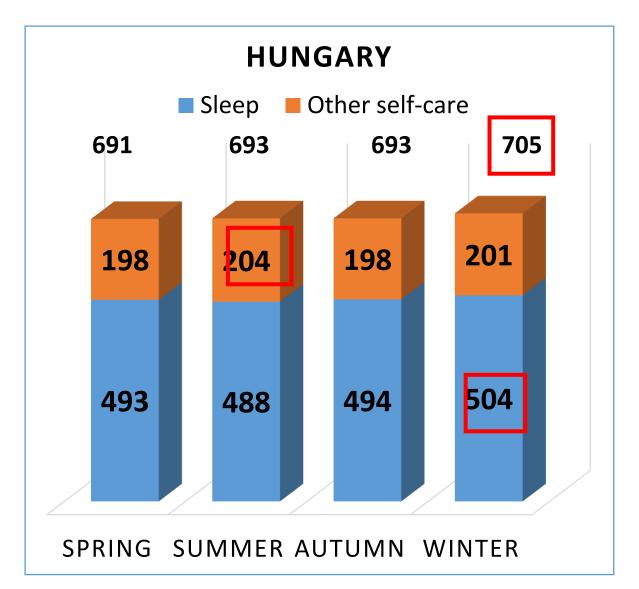


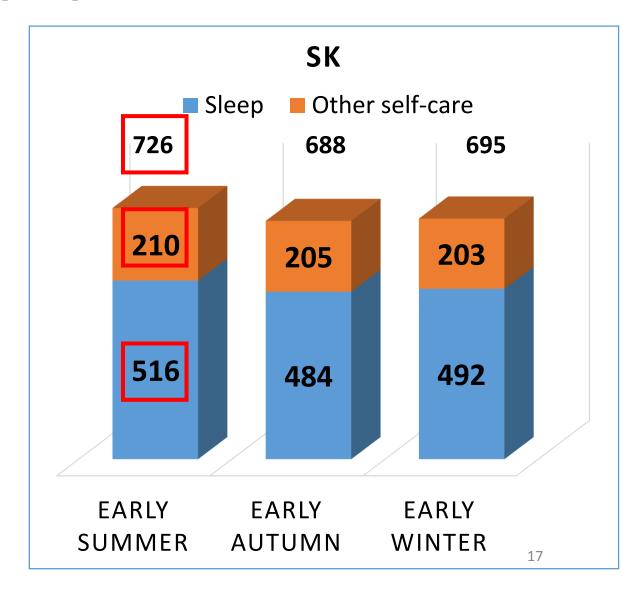
Seasonal Variation of Personal Care and Sleep by Employment Status, Urban/Rural and Gender

Seasonal Variations in Personal Care and Sleep for the Working Aged Adults and Working Adults

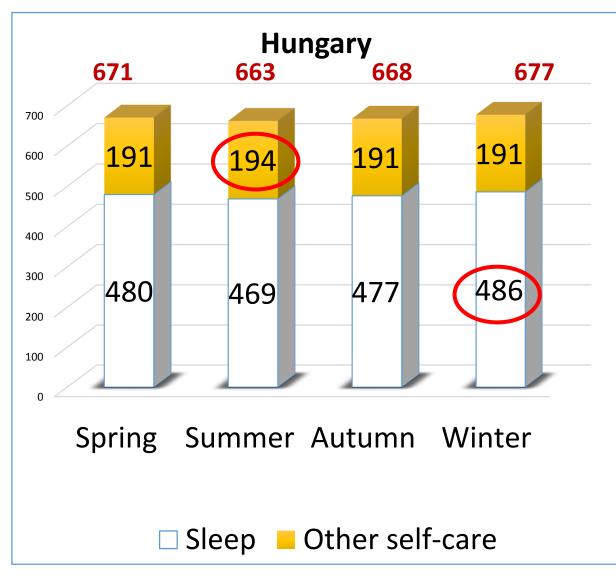
HUNGARY						SK						
	The Working Aged Adults			Working Adults		The Working Aged Adults			Working Adults			
Seasons	Sleep	Other personal care	Total personal care	Sleep	Other personal care	Total personal care	Sleep	Other personal care	Total personal care	Sleep	Other personal care	Total persona Icare
Spring	493	198	691	480	191	671	<u></u>					
Summer	488	204	693	469	194	663	516	210	726	464	214	677
Autumn	494	198	693	477	191	668	484	205	688	469	209	678
Winter	504	201	705	(486) 191	678	492	203	695	479	207	686
Average	495	200	695	478	192	670	494	205	700	470	209	680

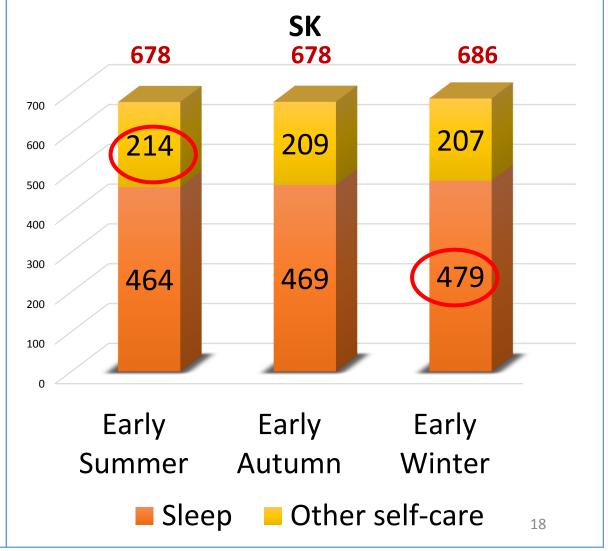
Seasonal Variations in Personal Care & Sleep for the Working Aged Adult



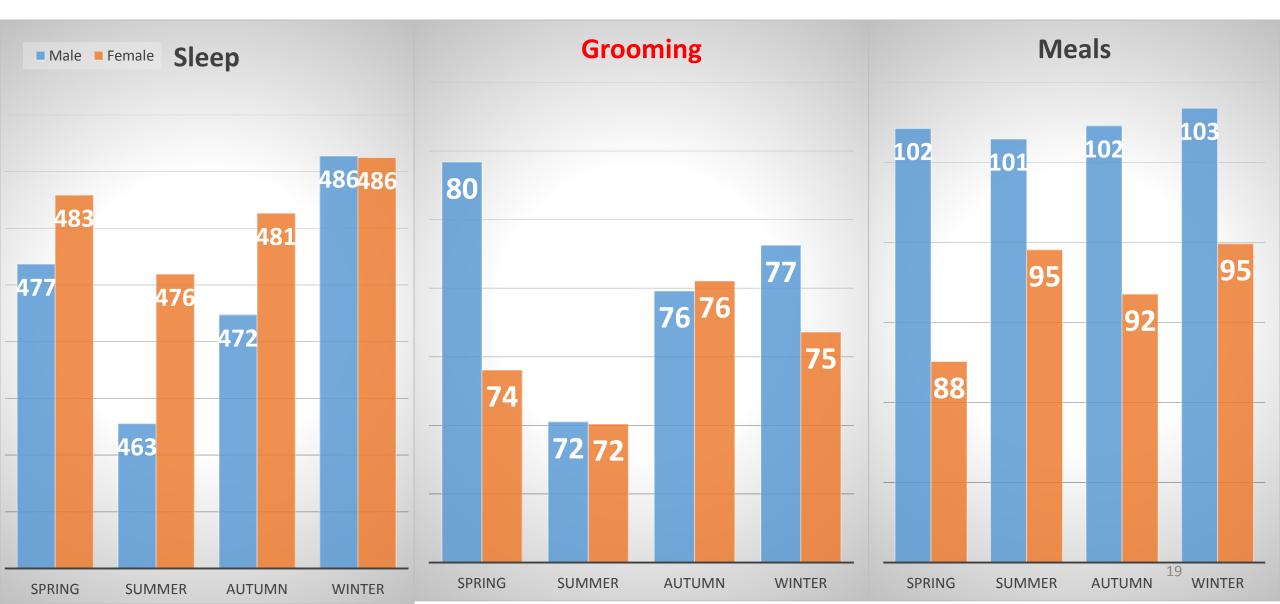


Seasonal Variations in Personal Care and Sleep for Working Adults

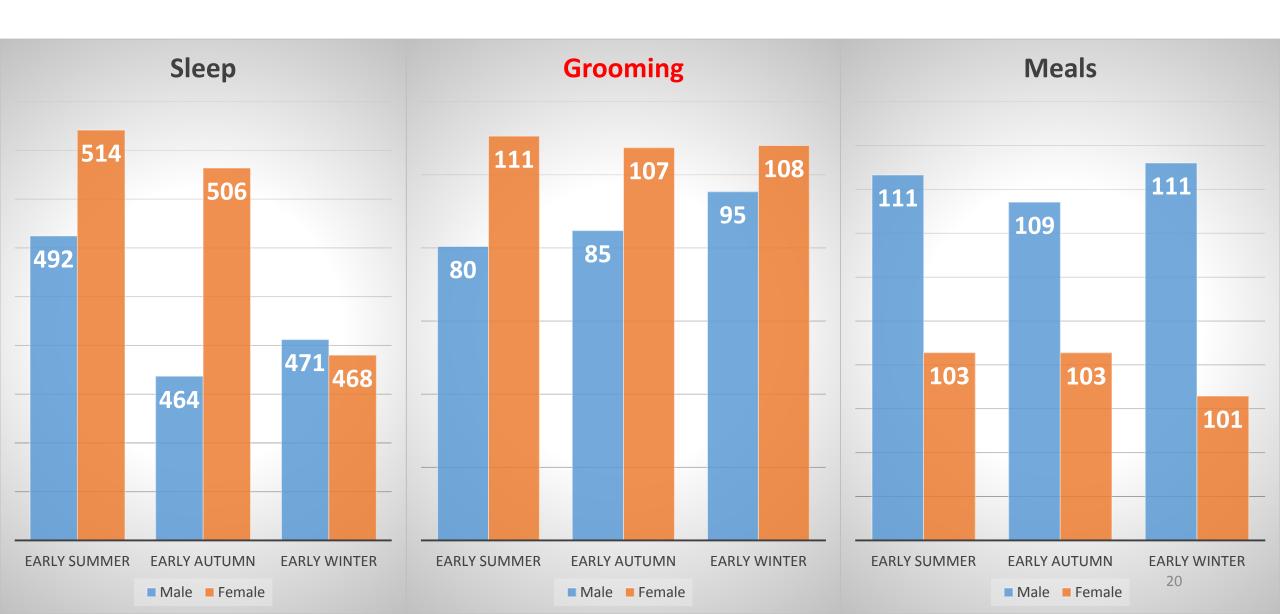




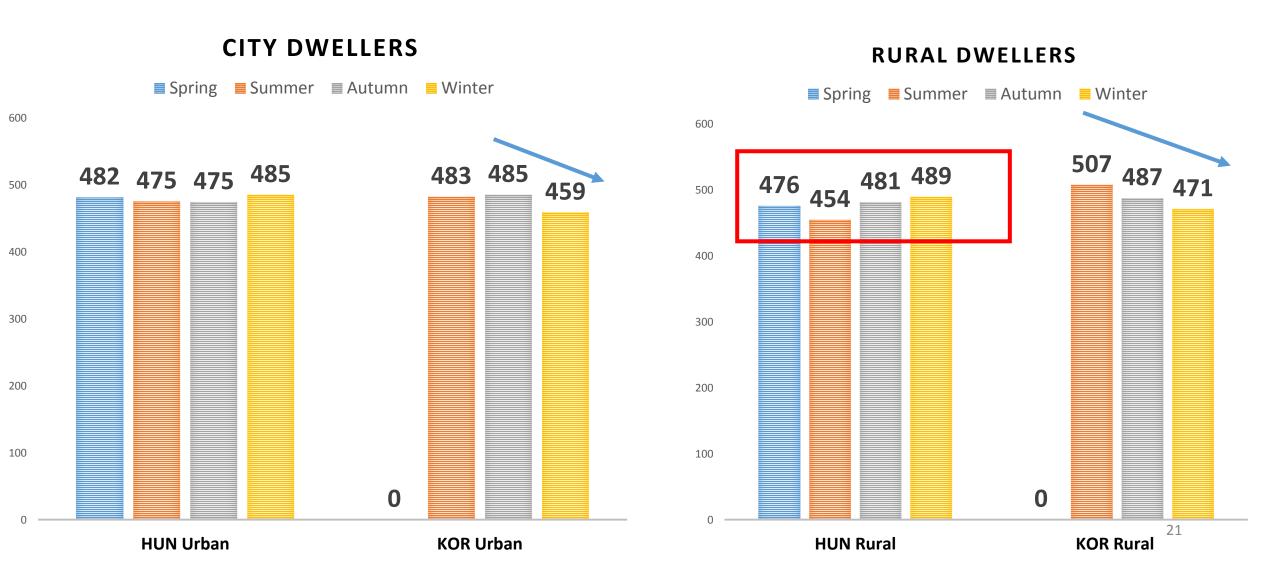
Seasonal Variations in Personal Care for Working Adults by Gender : *Hungary*



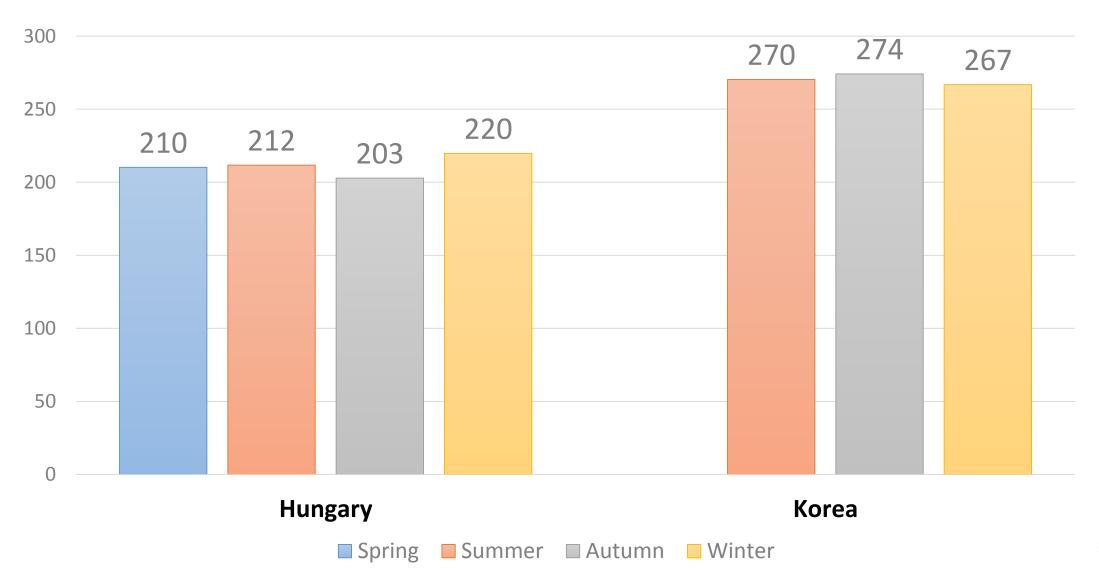
Seasonal Variations in Personal Care for Working Adults by Gender : *SK*



Seasonality of Sleep for Working Adults by Urban/Rural: Hungary and SK



Seasonality of Leisure Time for Working Adults: Hungary and SK



Summary, Discussion and Limitations

- Working aged adults:
- 1) Hungarians do the *most paid work in summer, and sleep the least in summer but most in winter*.
- 2) As opposed to this, *Koreans do the most leisure and personal care in summer*.
 - Hungarians seem to have the most leisure in winter which seems counter intuitive, but the majority of this is to socialize and watch TV.
- Working adults:
- 1) Hungarians do the *most paid work in summer, and sleep the least in the summer* but most in winter.
- 2) They show a *higher seasonality in paid work* than Koreans who always work regardless of seasons.

Summary, Discussion and Limitations

Gender:

- 1) Hungarian males have much higher seasonality than women.
 - In summer, they work more, but in winter they work less than their female counterparts.
- 2) This tendency is *the opposite to Koreans* where females show a bigger difference by season
- 3) Sleep: Hungarian males tend to have much higher seasonality of sleep.
 - Females tend to constantly sleep in the mid-range.
- Limitations:
- 1) Exploratory
- 2) Need more theory-based approach on the relation between season/temperature and daily life behaviors
- 3) More deep understanding the impact of cultures for Hungarians and Koreans

Thank you!