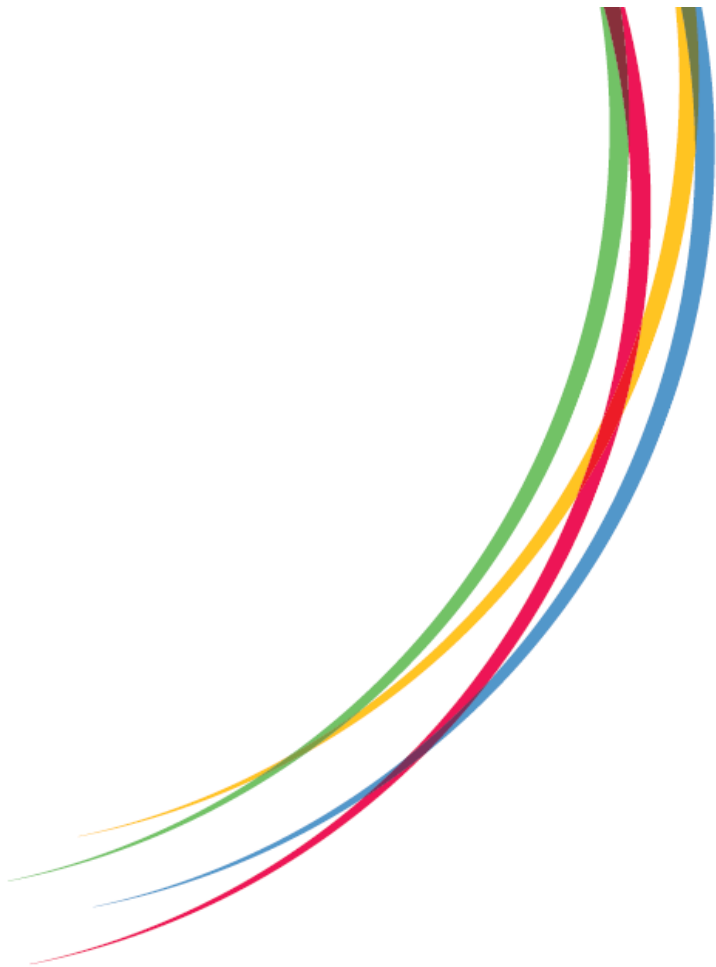




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The Distribution of *Understanding Society* Interviews by Day of the Week

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Non-Technical Summary

Many large scale surveys, like *Understanding Society*, rely on face-to-face interviews being carried out with respondents in their own homes. The timing of these interviews is of interest to researchers for at least two reasons: a) the timing may affect the costs of data collection, for example if interviewers need to be paid more to work on Sundays, and b) the timing may affect the survey data in certain ways, for example if there are systematic variations over time in how people feel, or in how well able they are to recall events.

However, the timing of interviews is not under the control of researchers as it depends on both the working practices of field interviewers and the availability and preferences of selected survey sample members. One important aspect of timing is the day of the week on which interviews take place. This paper presents exploratory analysis of how interviews at waves 1 to 5 of *Understanding Society* are distributed over days of the week and how this distribution differs between population subgroups.

The Distribution of *Understanding Society* Interviews by Day of the Week

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Abstract

The timing of face-to-face in-home interviews on a large social survey is of interest, both because it may affect the costs of data collection and because it may affect the survey data in certain ways. However, the timing is not under the control of researchers as it depends on both the working practices of interviewers and the availability and preferences of householders. This paper presents exploratory analysis of the distribution of *Understanding Society* interviews, waves 1 to 5, over days of the week.

Key words: CAPI interviews; survey paradata

JEL classifications: C81, C83

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¹ Q-Step (<http://www.nuffieldfoundation.org/q-step>) is a £19.5 million initiative funded by the Nuffield Foundation, Economic and Social Research Council and the Higher Education Funding Council for England, designed to promote a step-change in quantitative social science training in the UK.

The Distribution of *Understanding Society* Interviews by Day of the Week

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1. Introduction

Using data from Waves 1-5 of the *Understanding Society* survey, this paper aims to describe how interview percentages vary across weekdays in different sample subgroups. Although respondents are approached by interviewers, respondents may decline an interview date or propose a better one. Therefore, this project is of interest to those who aim to gain insight into field interviewing, specifically with regard to what day of the week yields certain interview percentages. The following research questions are addressed: How do percentages of interviews per day of week differ across different (demographic) groups? Which are some of the factors that influence a respondent's likelihood of being interviewed on a Sunday? It needs to be noted that tendencies explained in this report are merely correlative, not causative. This analysis will hopefully contribute to projects regarding the maximisation of survey response rates and fieldwork efficiency.

2. Methods / Data

For the following analysis, individual response data from Waves 1-5 was used to analyse day of week of interview percentages². Firstly, a new variable for date of interview was generated, which summarised the day, month, and year variables. Then, the newly created date variable was used to generate a weekday variable. These values were ordered from Monday (value 1) to Sunday (value 7).

The following variables were analysed with regard to day of week of interview: sex, age, economic activity, living in London or not, number of dependent children below

² Household response data from Waves 1-5 was also examined. However, due to time constraints this data will not be analysed here.

the age of 15, degree of depression, impacted memory or concentration ability, difficulty filling out forms in English, and how often the respondent feels useful³. Economic activity was categorised into the following five categories: employed, caring for family/ home, other occupation, student/ retired/ sick/ disabled, and unemployed⁴. Age was categorised for the graphical analysis of the percentage distribution over weekdays, but was used as a continuous variable in the regression analysis. The number of dependent children was categorised into four categories for both types of analyses done in the course of this project. Sex, living in London or not, and impacted memory and concentration ability were used as dummy variables, which leaves degree of depression and the perceived degree of usefulness of oneself as categorical variables sorted on a scale of 1 to 5.

The analysis was split into two sections: a graphical analysis of the above variables, and a regression analysis. For the regression analysis of Wave 1 Sunday responses, proxy responses for “degree of depression” and “feeling useful” were included into the category with the most responses.⁵

3. Analysis

In the following section, this paper will provide a closer look at the graphs for the distributions of interviews across weekdays by specific groups. This will then be followed by a regression analysis for Wave 1 Sunday interviews.

As can be seen in the graphs (Appendix A), the distributions across weekdays are very similar for all subgroups. In Wave 1, the interview percentage was highest on Mondays, after which percentages reduced somewhat until Thursday, then decreasing more rapidly towards Friday and the weekend. In subsequent waves, interview percentages on Monday decreased, and instead peaked on Tuesdays or Wednesdays. It should also be noted that in the first wave, the interview percentage

³ "difficulty filling out forms in English" and feeling useful" were excluded from the regression analysis, due to not being available for Waves 2-5

⁴ Recoding for categorical variables is shown in Table 1 in Appendix B

⁵ All analysis was undertaken using Stata

on Saturday was significantly higher in comparison to that of subsequent waves, which can be seen more clearly when comparing interview percentages of Fridays (which stayed roughly the same) and Saturdays.

3.1 Graphical Analysis

Sex

Figure 1 shows the distribution of interview percentages for males and females. Most noticeably, the female subgroup has higher percentages of interviews during the week across all waves. Yet, it can be noted that distributions across both groups change across waves and in relation to each other.

Inferences at this point are speculative, due to an absence of additional information about how interview times are chosen. However, one possible explanation for the difference in percentage could be that women might be better at time management, and tend to prefer to get their interviews out of the way during the working week. However, it might also be the case that there is a higher percentage of women than men staying at home during those days, which would mean that they would be more likely to be available for interviews.

Age

Generally, it can be seen that throughout all Waves, respondents aged 65 and over had a higher percentage of interviews on weekdays, in comparison to other groups. Across several waves, there is a tendency for Monday, Tuesday and Thursday interview percentages to be higher for respondents above the age of 45 than for those below the age of 45.

A possible reason for the weekend percentage of interviews to be lower for older respondents, might be that due to the bilateral process of agreeing on an interview date, interviewees that were older, and hence more likely to have less responsibilities during the week, were more likely to have time to give an interview on weekdays. However, it might also be the case that interviewers were more likely to approach younger interviewees rather than older interviewees during weekends, believing that older respondents earned their quiet on weekends and hence not wanting to bother them.

Economic activity

As the economic activity variable is not a continuous or ordered variable, we need to look at individual categories in more detail.

In the “employed” and the “student/retired/sick/disabled” categories, percentages exhibit a mostly clear pattern of decreasing throughout the week, or peaking on Tuesdays and then decreasing. Percentages for “caring for family/home”, “unemployed”, and “other” fluctuate⁶ throughout several waves. Interestingly, as can be seen in Figure 3, percentages for “other” showed outlying peaks in Waves 4 and 5, on Wednesday and Friday respectively. This behaviour was not observed in any other variable throughout my data analysis, yet it might be due to the “other” group including a comparably small number of observations, and hence demonstrating a greater random variation.

After graphing all categories of the “economic activity” variable, “employed” and “unemployed” responses on weekday were again graphed, excluding the other subgroups, in order to be able to make a more direct comparison (Figure 4). This makes it easier to see that in Wave 5 employed respondents have higher interview percentages on both days of the weekend, whereas in previous waves they would only have a higher percentage on Saturdays. This observation could be more closely analysed in subsequent research.

Living in London

The percentages of interviews for people living in and not in London shows one of the clearest tendencies of any of the analysed variables, with regard to weekday distribution. Percentages for respondents not living in London were in comparison higher than those of respondents living in London on all weekdays, throughout all examined waves. On weekends there is a flip, and interview percentages for those living in London were significantly higher than for those of the other group. While percentages of interviews for those not living in London exhibit the typical pattern described above, percentages for respondents living in London fluctuate over

⁶ I will use the term “fluctuating” to mean that a certain percentage changes tendency at least two times (e.g. decrease, increase, decrease).

weekdays and throughout waves. When looking at the first four weekdays, we can also observe that in the first two waves, percentages steadily decrease during these days. In Wave 3 there is a decrease from Monday to Wednesday, and then an increase from Wednesday to Thursday. In the last two waves, percentages fluctuate daily throughout the week. This is a tendency which should be studied more closely, also with regard to subsequent waves. It poses the question whether Londoners are getting increasingly unpredictable in terms of their preferred day of interviews.

Furthermore, the lowest percentages of interviews for this group can generally be found on Fridays and Sunday. As a result, unlike other variables, percentages for interviews on Saturdays are higher than on Fridays throughout all waves. This is of interest, as it suggests further inquiry as to why people living in London are less willing to have their interviews on Fridays than on Saturdays.

Dependent children

In this category, interview percentages are rather similar. The main finding is the higher interview percentage of respondents with three or more children on weekends. Furthermore, there is a slight tendency of interview percentages for respondents with two or more dependent children to fluctuate throughout the week, in contrast with a more constant decline of percentages towards the end of the week for those respondents with less or no children.

Depression

When looking at the depression variable and its analysis on days of week, it is important to reiterate that there might be reverse causation regarding the influence of depression on day of week of interview. This paper does not give an insight into the effect that weekday has on respondents' reported degree of depression. Yet, it can be observed that for respondents who answered that they always or often felt depressed, percentages for day of week interviews tend to fluctuate in Waves 1-4. In Waves 4 and 5 the percentages on Monday were lower than those on Tuesday (Wave 4) and Wednesday (Wave 5). The higher percentage of interviews of respondents who always felt depressed on Fridays in Wave 4 is somewhat of an outlier in an inter-group comparison, as in previous waves, this percentage was somewhat the same as those of respondents who gave other answers. In Wave 5,

although percentages across response groups still differ, all subgroups' percentages show a peak-pattern, with highest percentages on Tuesday or Wednesday.

Ability to concentrate & remember

When looking at the variable for impacted memory or concentration ability, it is noticeable that most interview day percentage distributions for this variable peak on Tuesdays. Merely in Wave 3, percentages of interviews with respondents who reported having an impacted memory and ability to concentrate fluctuated. There was, however, no tendency as to which of the two subgroups has higher percentages on certain weekdays. As a result, there seems to be little correlation between whether respondents report an impacted memory or ability to concentrate, and the weekday they chose for their interview.

3.2 Regression analysis

In following, the results obtained from a regression analysis of the variables analysed in graph form on the variable for Sunday responses will be presented. This analysis is here only done for Wave 1 responses. As a logit regression was conducted, the coefficients shown below are logistic probabilities. Several categories are here divided into their subgroups, hence showing individual relations to a reference category within one variable. This is the case for economic activity (where "employed" was the reference category), depression (where "always" was the reference category), feeling useful (where "never" was the reference category), and number of dependent children (where "no children" was the reference category).

When looking at the coefficients in Table 1, we can see that women are somewhat less likely to have their interviews on a Sunday. The coefficient for age is non-significant at the 95% level; however that for age squared is. A rise in age squared has a minimal negative impact on the logistic probability of having one's interview on a Sunday. The coefficient for impacted memory or ability to concentrate is also negative, meaning that if difficulties concentrating or remembering are reported, the probability for having an interview on Sunday is decreased. In comparison to employed respondents, those who belong to any of the other categories are less likely to have interviews on Sundays. The coefficient received for respondents "caring for family/ home" is non-significant on the 95% level however, yet the

negative coefficient indicates that belonging to the aforementioned category lowers one's chances of being interviewed on a Sunday. In comparison with all other subgroups, respondents with "other" occupations had lower chances of having their interviews on Sundays. The coefficient for students, retired and disabled people, or those on sick leave was negative, hence implying that those respondents are less likely to have their interview on a Sunday.

The coefficients for "degree of depression" and "feeling useful" are all non-significant at the 95% level. However, it can be observed that those who are more depressed seem to have a higher probability of having their interviews on a Sunday, compared to those who never felt depressed. Although non-significantly, respondents who reported feeling tendentially more useful have a higher probability of having their interviews on a Sunday. Lastly, when observing what number of dependent children makes respondents more likely to have their interviews on Sundays, we can observe that solely the coefficient for respondents with two dependent children is significant at the 95% level. In comparison to those without dependent children, the aforementioned group has a lower probability of having their interviews on Sundays. Further analysis would be helpful in determining the influence of other variables on the stronger tendency for respondents with three or more dependent children to have an interview on Sunday (as can be seen in Figure 6).

Table 1 – Regression Analysis for Wave 1

	Coefficient
Sex	-0.132*
Age	0.004
Age squared	-0.0003*
Impacted memory	-0.023**
Economic activity	
Caring for family/ home	-0.172
Other occupation	-0.720*
Student/ retired/ sick/ disabled	-0.185*
Unemployed	-0.230*
Degree of depression	
Most of the time	0.118
Some of the time	-0.012
A little of the time	-0.111
None of the time	-0.242
Feeling useful	
Rarely	-0.206
Some of the time	-0.164
Often	-0.117
All of the time	0.153
Number of dependent children	
1	-0.178
2	-0.416***
3	-0.024
N	39,208
Adj. R-squared	0.020

*p<0.5, **p<0.01, ***p<0.001

4. Conclusion

This paper explained how interview percentages vary across weekdays in various sample subgroups. The tendency of observing the highest interview percentages on Mondays or Tuesdays, then for percentages to decrease until Thursday, and finally to drop to their lows on Fridays and the weekends, was observed across all sample subgroups, throughout all waves. Variations in percentages across subgroups were mostly minimal. Major points of interest were that (1) females had higher weekday interview percentages than males; (2) older respondents had a higher percentage of interviews on weekdays than younger respondents; (3) employed and unemployed respondents had higher weekend interview percentages than those in other occupation subgroups; (4) respondents who live in London had significantly higher interview percentages on weekends than those not living in London; and (5) respondents with a higher number of dependent children had higher weekend interview percentages.

Additionally, this paper has explained some of the relations between how what demographic group one belongs to has an influence on whether or not one gets interviewed on a Sunday. Coefficients were mostly negative, which reflects the tendency observed in the graphs that in certain sample subgroups, the chance of having an interview on a Sunday is lower than that of having an interview on other days. However, many coefficients in this regression analysis were insignificant at the 95% level. Therefore, further research is needed to identify the factors leading to a Sunday interview. A further analysis which may include a closer look at the error terms might determine whether the model is correctly specified, or if tendencies are in fact non-linear.

Appendix A

Figure 1: Day of Week of Interview, by Sex and Wave

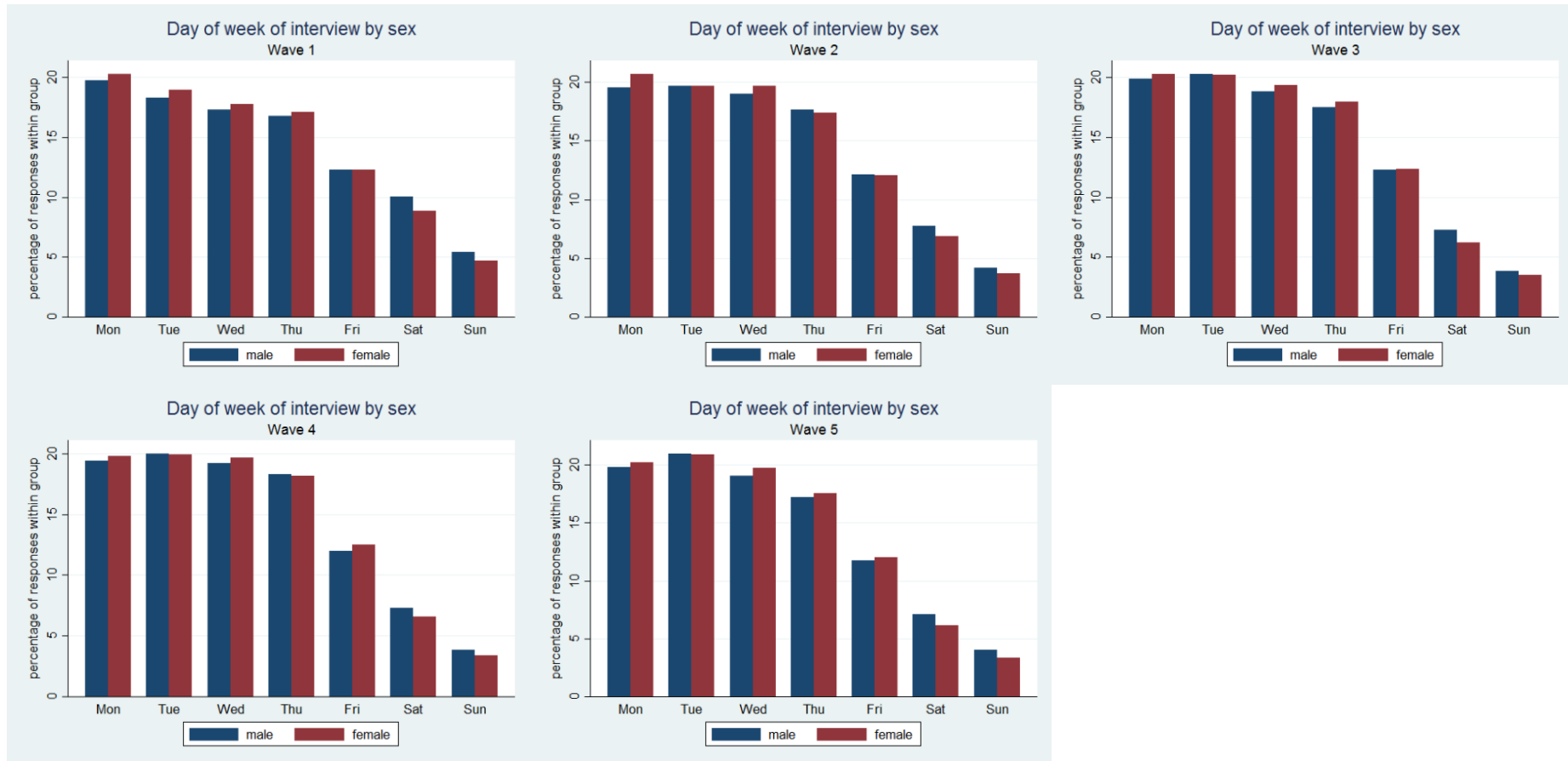


Figure 2: Day of Week of Interview, by Age Group and Wave

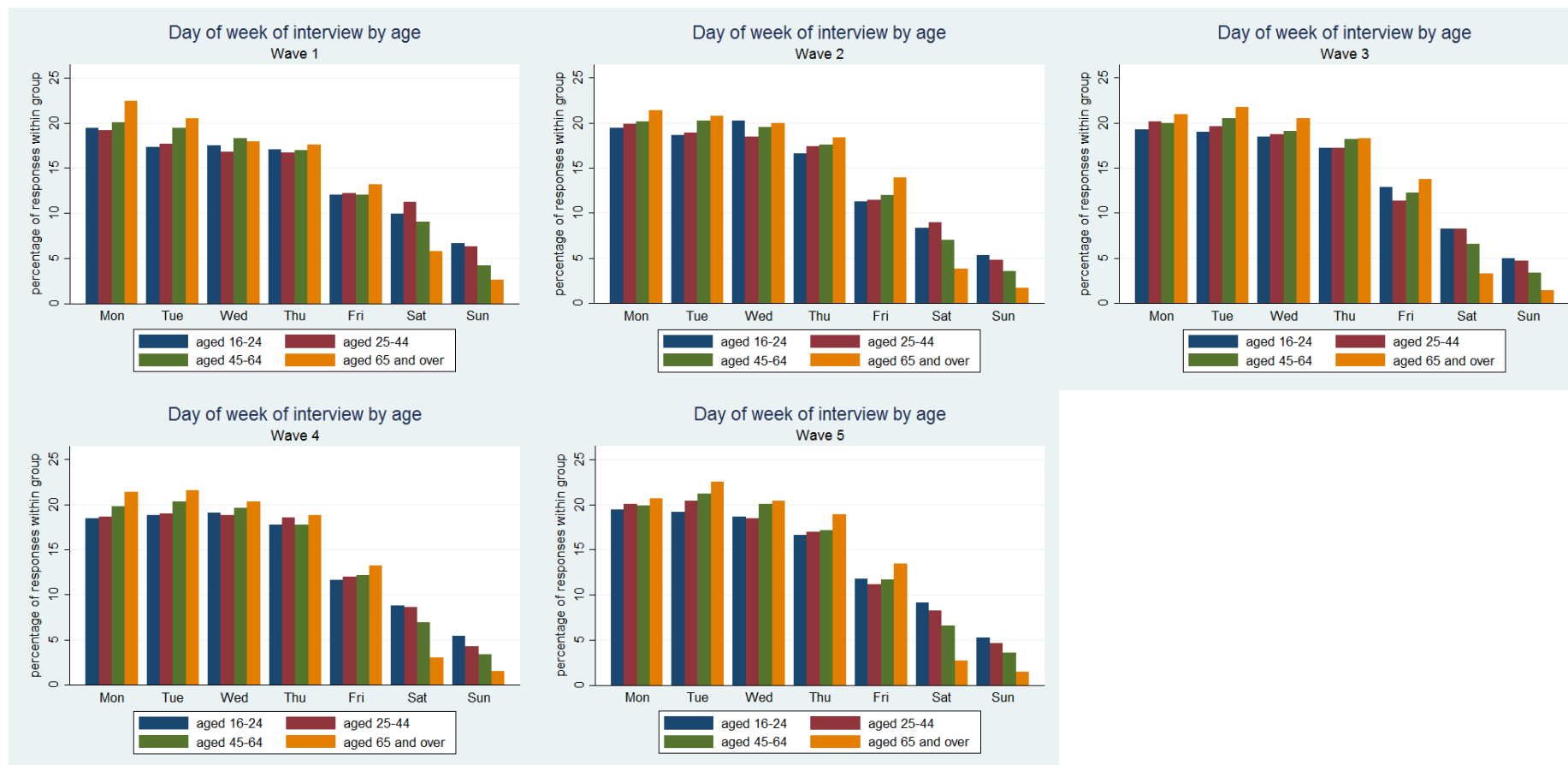


Figure 3: Day of Week of Interview, by Economic Activity and Wave



Figure 4: Day of Week of Summarised Economic Activity, by Sex and Wave

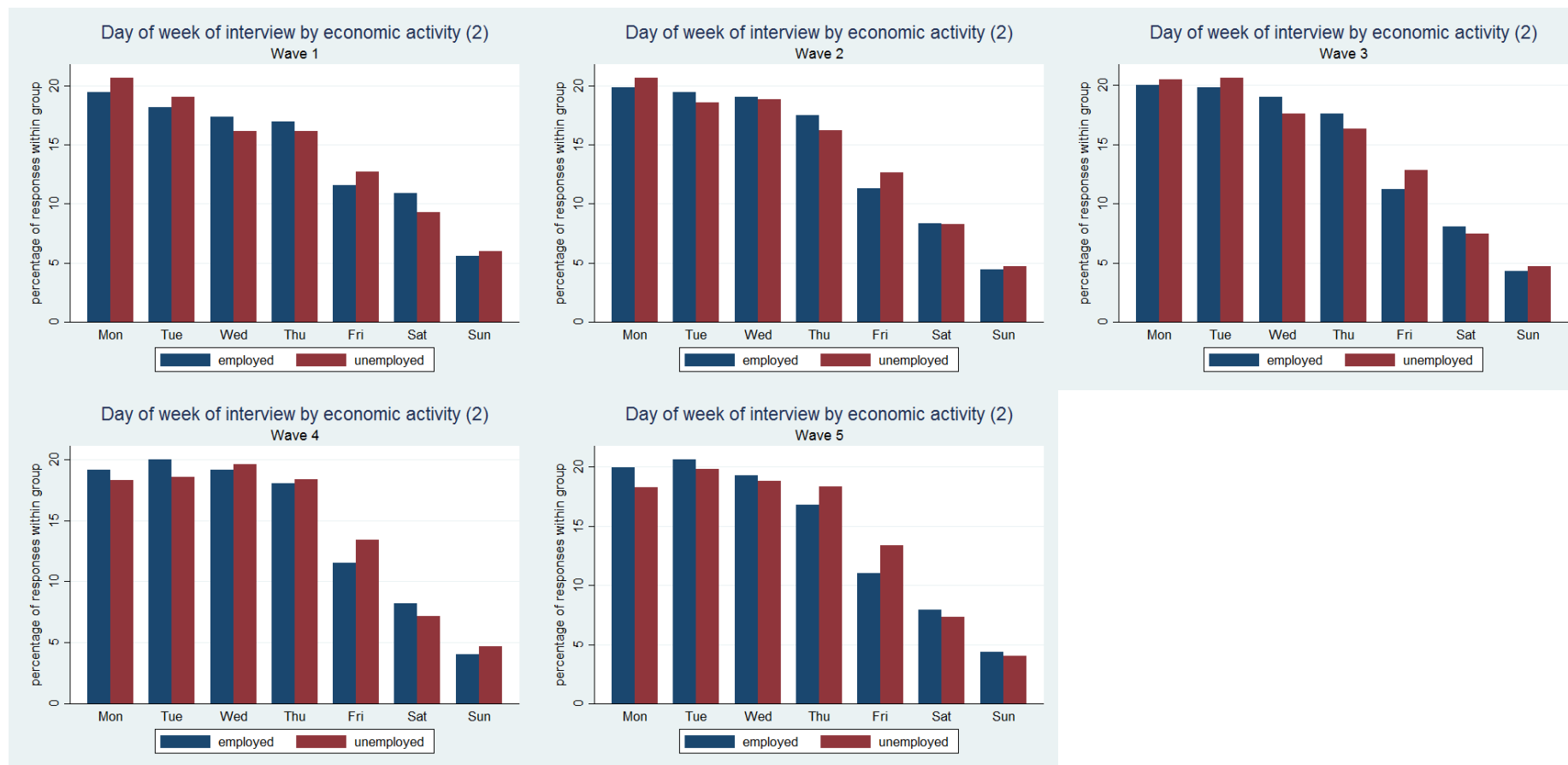


Figure 5: Day of Week of Interview, by Region (London vs. Other) and Wave

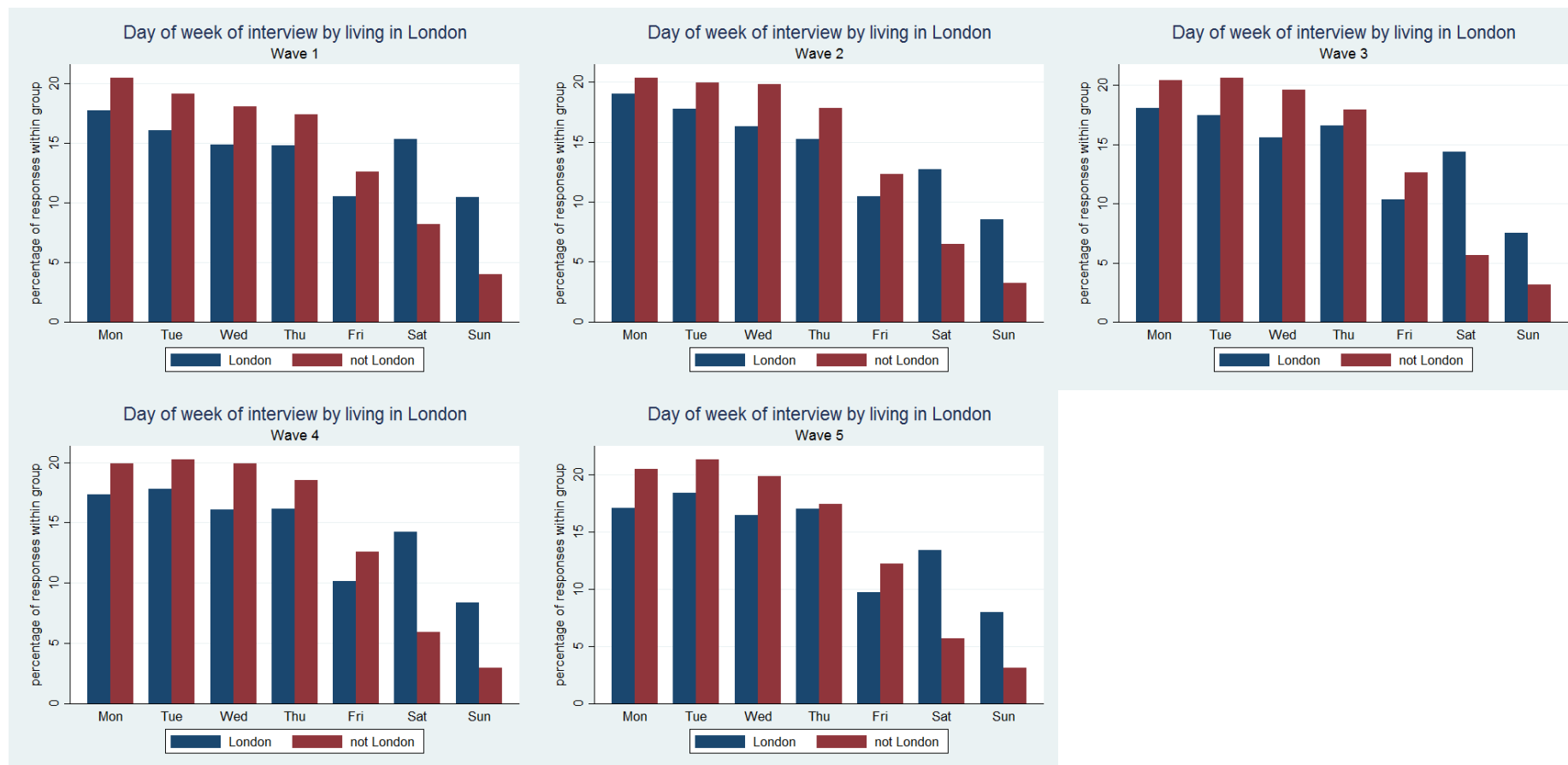


Figure 6: Day of Week of Interview, by Number of Children in Household and Wave

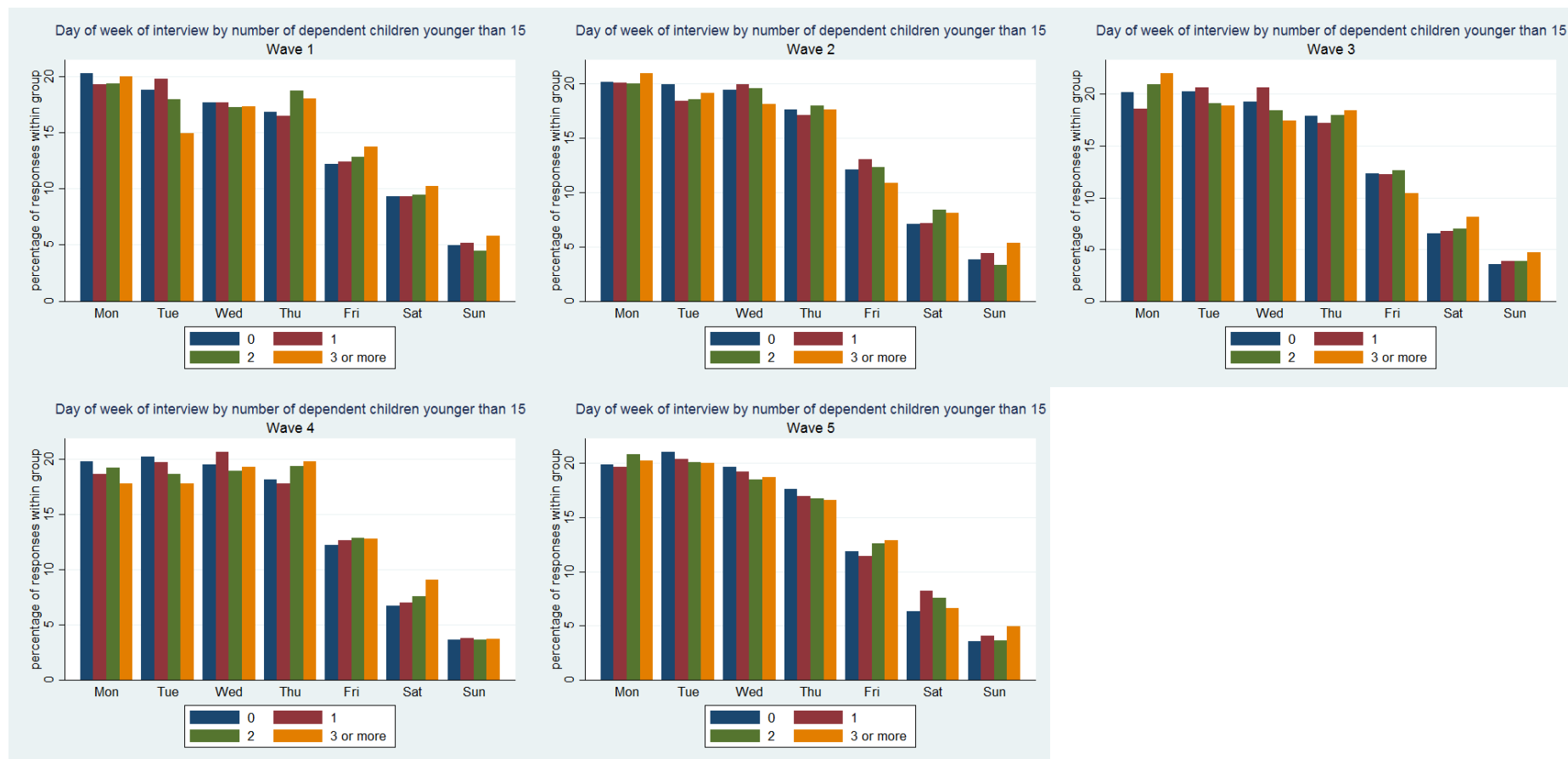


Figure 7: Day of Week of Interview, by Degree of Depression and Wave

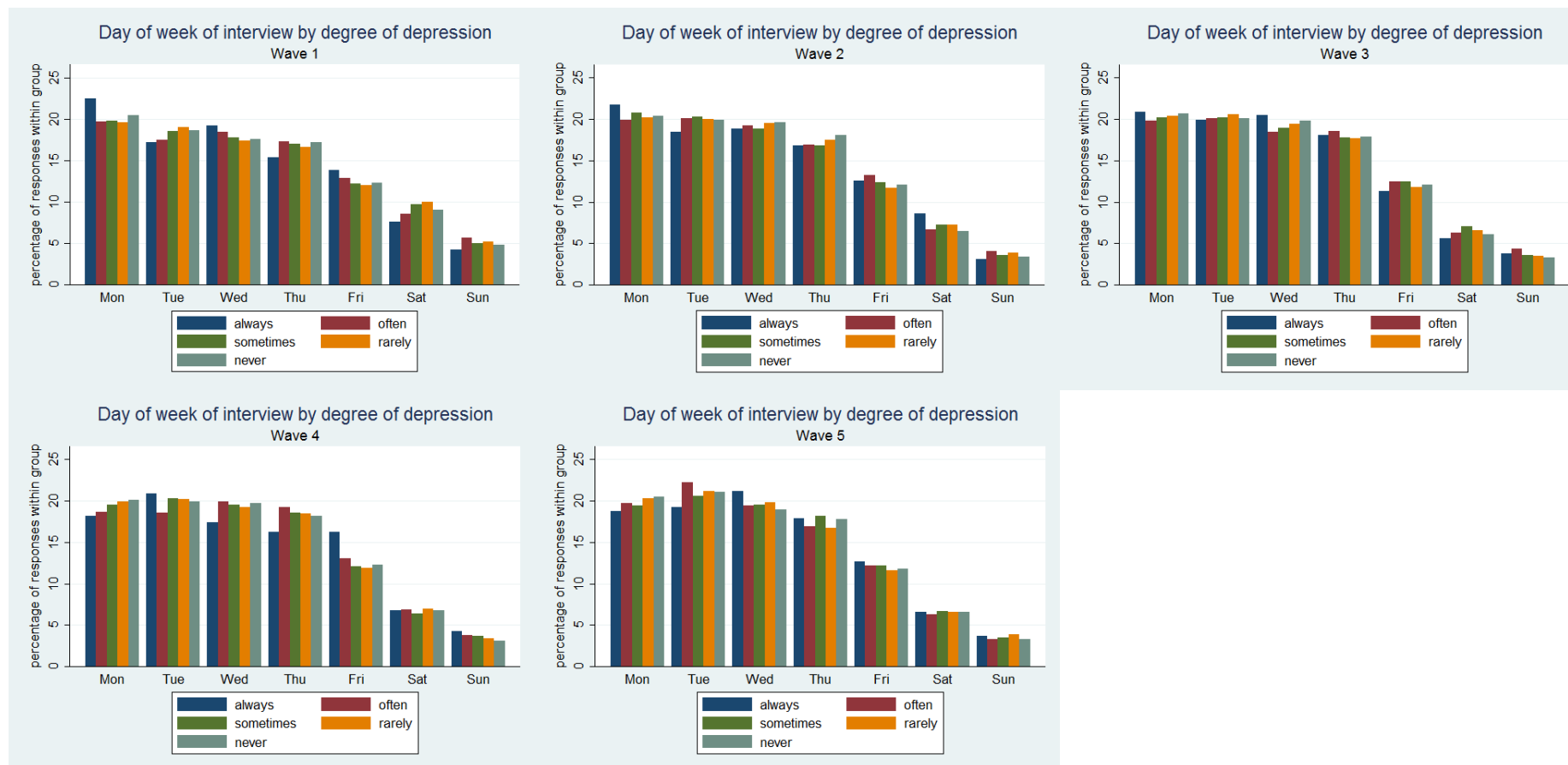
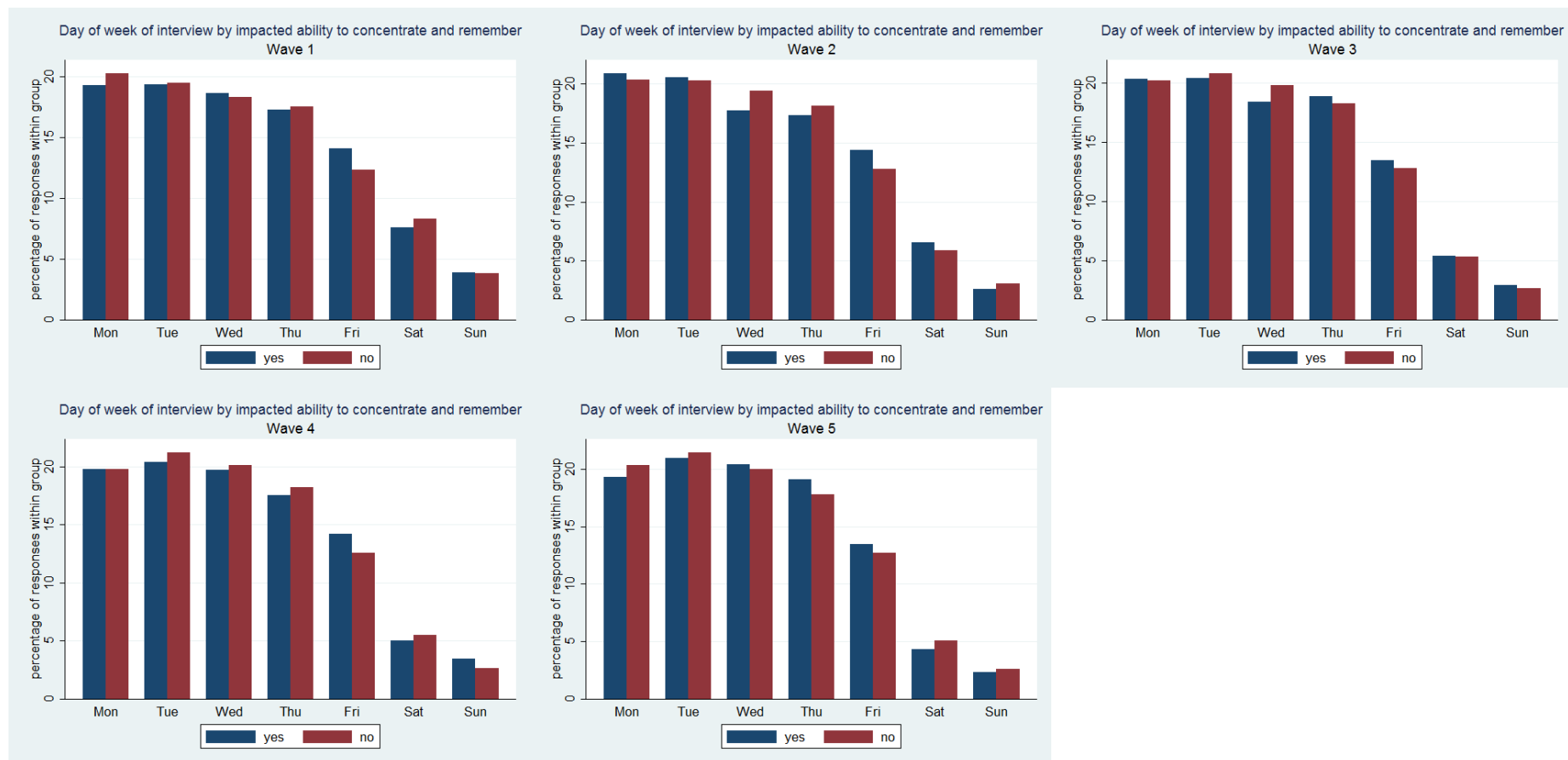


Figure 8: Day of Week of Interview, by Ability to Concentrate and Wave



Appendix B

Figure 9: Recoding Table

AGE		ECONOMIC ACTIVITY		NUMBER OF DEPENDENT CHILDREN	
Old variable name	New variable name	Old variable name	New variable name	Old variable name	New variable name
x_age_cr ⁷	x_agecat	x_jbstat	x_jbstatcat	x_nch14resp	x_nch14respcat
<u>Old value</u>	<u>New value</u>	<u>Old value</u>	<u>New value</u> ⁸	<u>Old value</u>	<u>New value</u>
16-24	16	1, 2, 10	1	0	0
25-44	25	5, 6	2	1	1
45-64	45	9, 97	3	2	2
≥65	65	4, 7, 8	4	3-9	3
		3	5		
		-9, -2, -1	.a		

⁷ “x” at the beginning of variable names signifies the letter assigned to each wave (i.e. “a” for Wave 1, “b” for Wave 2, etc.)

⁸ 1 “employed”, 2 “caring for family/ home”, 3 “other occupation”, 4 “student/ retired/ sick/ disabled”, 5 “unemployed”, .a “missing value”