**PSYC234: Lecture 9 post-lecture worksheet**

This worksheet is to help you consolidate what you learned during Lecture 9. It contains two activities.

This worksheet could be completed as part of the independent study hours for PSYC234. **It is optional but recommended**. **It is recommended that you complete this worksheet in advance of the WBA.**

Once you have finished, compare your answers to theanswer sheet provided on Moodle. You can also use this sheet and the answer sheet for revision purposes when preparing for the class test.

**Activity 1: Interpreting odds ratios from multiple binary logistic regression:**

Imagine you are interested in examining factors that predict whether an individual has a dog (yes/no). The variables you are interested in are: has children (yes/no), working pattern (full-time, part-time, unemployed), and number of pets previously (continuous). You code dog into a numeric variable where 0 = No and 1 = Yes. You set “No” as the reference category for “has children” and “unemployed” as the reference category for working pattern. Below are the odds ratios and 95% confidence intervals around the odds ratio that you obtain.

|  |  |  |  |
| --- | --- | --- | --- |
|  | Odds ratio | Lower confidence interval bound | Upper confidence interval bound |
| Has\_childrenYes | 3.67 | 2.14 | 5.64 |
| Working\_patternFull-time | 6.85 | 1.34 | 14.67 |
| Working\_patternPart-time | 3.12 | 0.67 | 1.35 |
| Num\_previous\_pets | 0.45 | 0.23 | 0.67 |

**Interpret these odds ratios**

**Activity 2: Interpreting odds ratios from ordinal logistic regression:**

Imagine you are interested in examining factors that predict severity of a disease (mild, moderate or severe). The variables you are interested in are: pre-existing health condition (yes/no), smokes (yes/no), and number of units of alcohol consumed weekly (continuous). You code disease severity into an ordered factor (mild < moderate < severe). You set “No” as the reference category for “pre-existing health condition” and “smoking”. Below are the odds ratios and confidence intervals you obtain.

|  |  |  |  |
| --- | --- | --- | --- |
|  | Odds ratio | Lower confidence interval bound | Upper confidence interval bound |
| Pre-existing\_healthYes | 2.31 | 1.45 | 4.56 |
| SmokesYes | 1.45 | 0.89 | 4.56 |
| Num\_alcohol\_units | 1.12 | 1.02 | 1.45 |

**Interpret these odds ratios**