**TU Dublin City Campus**

**Probability and Statistical Inference**

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**Week 7 Practical**

**Linear Regression**

**Step 1.** Download the zip file from Brightspace that contains the datafiles we are using this week. Unzip to a location that makes sense for you and make sure you know how to access the data from within RStudio.

**Step 2.** Review the markdown (and HTML output generated from this).

**Step 3**. Using the Survey dataset from Julie Pallant, build linear regression model to investigate whether:

* Perceived Stress (tpstress) can be considered to be predicted by levels of optimism (toptim) (simple linear regression)
* There is a differential effect for respondents of different gender (multiple regression to predict perceived stress with multiple predictors of optimism (toptim) and gender (sex)

**Step 4:** Using the Sleep dataset from Pallant build linear regression model to investigate whether:

* Total Sleep and Associated Sensation score (totsas) can be considered to be predicted by a respondent’s level of anxiety (anxiety) (simple linear regression)
* There is a differential effect for respondents who have difficulty falling to sleep v those who do not (multiple regression to predict total sleepiness and associated sensation scores with multiple predictors of a respondent’s level of anxiety (anxiety) and trouble getting to sleep (trubslep))