**HL Markscheme (Analysis) – 6 marks**

* Descriptive and inferential statistics are appropriately and accurately applied.
* The graph is correctly presented and addresses the hypothesis.
* The statistical findings are interpreted with regard to the data and linked to the hypothesis.

|  |
| --- |
| **Reporting the Results of Mann-Whitney U Test** |
| **Example:** Likelihood of children of working mothers to use sex-role stereotypes.  **Sample Report:** “The Mann-Whitney U Test was chosen because it is the most appropriate non-parametric test for ordinal data in an independent measures design. The children’s stereotyping scores were in both groups were rank-ordered, and the sum of the ranks in each condition was totaled and use to calculate U values. The lower of these values was taken as a Mann-Whitney U value for N1=7 and N2=9, and compared to the table critical value (6) for a one-tailed test at *p*<0.05. The results indicated lower stereotyping scores for the children of full-time employed mothers than for the other children. This difference was significant, U=11.5, *p*<0.05, with U values of 51.5 for the employed mother group and 11.5 for the non-employed mother group. Therefore the null hypothesis is rejected.” |

|  |
| --- |
| **Reporting the Chi-Squared Test** |
| **Example:** Relationship between car age and stopping for an amber light.  **Sample Report:** “The Chi-Squared Test was chosen because it is the most appropriate non-parametric test for an independent measures design with nominal data. 50.3% of drivers in old cars (89/177) failed to stop at an amber traffic light, whereas only 38.4% of drivers in new cars (56/146) failed to stop. A x2 analysis of the difference between stop/didn’t stop frequencies across drivers of new and old cars was compared to the table critical value (2.71) for a one-tailed test at *p*<0.05 and found to be significant, x2 (df=1, N=323) = 4.6, *p*<0.05. Therefore the null hypothesis is rejected.” |

|  |
| --- |
| **Reporting the Results of Wilcoxon Signed Ranks** |
| **Example:** Level of student preference for the assignment-based teaching method.  **Sample Report:** “The Wilcoxon Signed Ranks Test was chosen because it is the most appropriate non-parametric test for ordinal data in a repeated measures design. One student showed no preference for either method and this result was discarded from the analysis. The remaining 14 students were rank ordered by the size of their preference for one teaching form over the other. A Wilcoxon *T* was used to evaluate these differences, and compared with the table critical value (30) for a one-tailed test at *p*<0.05, N=15. A significant preference was shown for the assignment-based method, *T* = 15, p ≤ .05; the total of the ranks where students were in favor of the assignment-based method was 90 and the total for the traditional method was 15. Therefore the null hypothesis is rejected.” |