Computing *d* and *g* from studies that use independent groups

We can estimate the standardized mean difference (δ) from studies that used two independent groups as

$$d = \frac{\overline{X}_1 - \overline{X}_2}{S_{within}}. \tag{4.18}$$

In the numerator, $\overline{X}_1$ and $\overline{X}_2$ are the sample means in the two groups. In the denominator S_{within} is the within-groups standard deviation, pooled across groups,

$$S_{within} = \sqrt{\frac{(n_1 - 1)S_1^2 + (n_2 - 1)S_2^2}{n_1 + n_2 - 2}} \tag{4.19}$$

where n_1 and n_2 are the sample sizes in the two groups, and S_1 and S_2 are the standard deviations in the two groups. The reason that we pool the two sample