$$\mu_1 = \beta_0 - 0.75\,\beta_1 - 0.5\beta_2$$
$$\mu_2 = \beta_0 + \beta_1$$
$$\mu_3 = \beta_0 + \beta_2$$

$$\bar{y}_1 = 7.25 = B_0 - 0.75B_1 - 0.5B_2$$
$$\bar{y}_2 = 8.66 = B_0 + B_1$$
$$\bar{y}_3 = 5.5 = B_0 + B_2$$
$$\bar{y} = 7.33$$

$$B_0 = 8.66 - B_1 = 5.5 - B_2 = 7.33$$
$$\Rightarrow B_1 = 8.66 - 5.5 + B_2 = 3.167 + B_2$$
$$7.25 = \left(5.5 - B_2\right) - 0.75 * \left(3.167 + B_2\right) - 0.5B_2$$
$$\Rightarrow B_2 = 5.5 - 7.33 = -1.83$$
$$B_1 = 3.167 - 1.83 = 1.33$$

$$X \sim N\left(\mu, \sigma^2\right) \Rightarrow \bar{X} \sim N\left(\mu, \frac{\sigma^2}{n}\right) \Rightarrow z_{15} = \frac{x_{15} - \bar{x}}{\sigma} \Rightarrow \bar{z}_{15} = \frac{\bar{x}_{15} - \mu}{\frac{\sigma}{\sqrt{n}}}$$

$$1 = \frac{x_{15} - 12}{\sqrt{9}}$$

$$dv = \alpha + \beta_1 idv + \beta_2 mod + \beta_3 idv * mod + \varepsilon = \left(\alpha + \beta_2 mod\right) + \left(\beta_1 + \beta_3 mod\right) idv + \varepsilon = \left(\alpha + \beta_1 idv\right) + \left(\beta_2 + \beta_3 idv\right) mod + \varepsilon$$

$$d\hat{v}(mod = 0.5) = (-0.3 + 3.227 * 0.5) + (6.293 + 6.096 * 0.5)\, idv$$

$$6.293 + 6.096 * mod = 0 \Rightarrow mod = -\frac{6.293}{6.096} = -1.032$$

$$\sqrt{var\left(B_{idv}\right)} = \sqrt{var\left(\beta_1 + \beta_3 mod\right)} = \sqrt{var(\beta_1) + 2 * cov\left(\beta_1, \beta_3 mod\right) + var\left(\beta_3 mod\right)} = \sqrt{var(\beta_1) + 2 * mod * cov\left(\beta_1, \beta_3\right) + mod^2 * var\left(\beta_3\right)} = \sqrt{0.354^2 + 2 * 0.2 * 0.12 + 0.2^2 * 0.4^2} = 0.42$$

$$\frac{23 * 12 + 15 * 22}{12 + 22} = 17.8 \; weighted$$

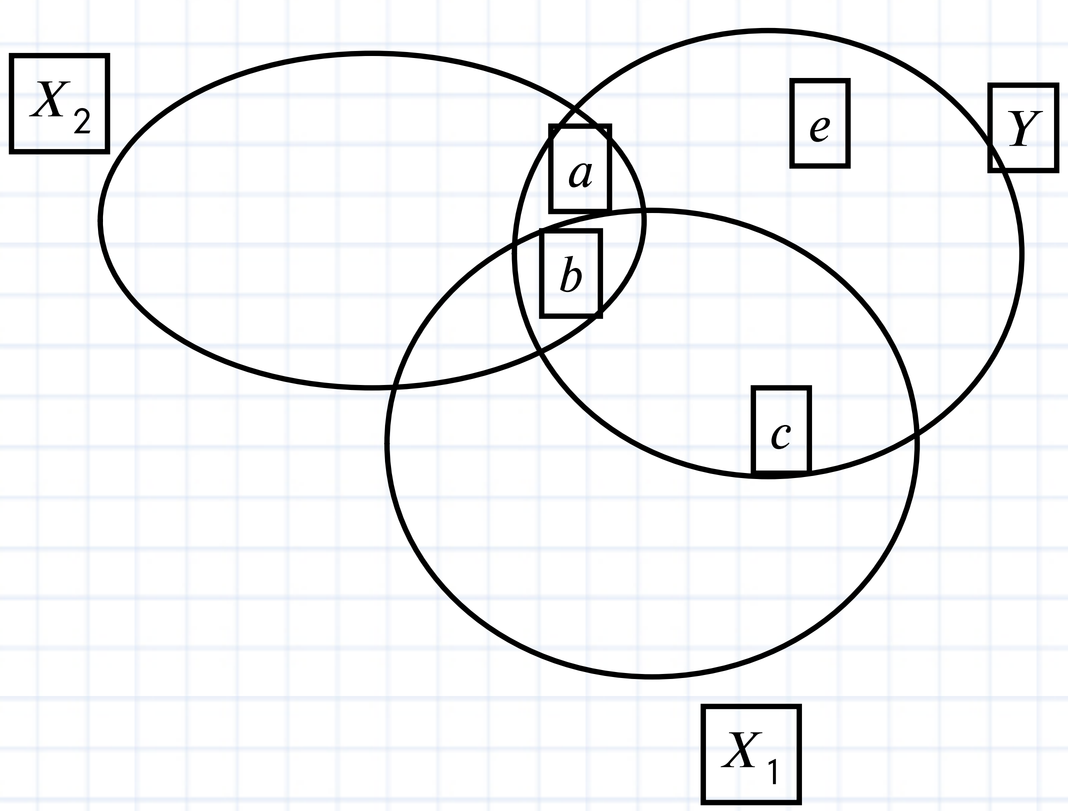
$$\frac{\bar{y}_1 * n_1 + \bar{y}_2 * n_2}{n_1 + n_2} \; weighted$$

$$\frac{\bar{y}_1 + \bar{y}_2}{2} \; unweighted$$

$$\frac{23 + 15}{2} = 19 \; unweighted$$

$$20.3 \; weighted; \; 20.25 \; unweighted$$

$$R^2 < r_{12}^2 + r_{13}^2 + \ldots + r_{1p}^2$$



$$R^2 = a + b + c$$
$$var(Y) = R^2 + e$$
$$a =$$

$$r_{\hat{y},y} = \left|r_{x,y}\right|$$